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THE COURSE OF STUDY IN ENGLISH—THE CALL FOR IT, THE CHARACTER OF IT, AND THE CONSTRUCTION OF IT[1]

Five years ago another committee of this association presented an exhaustive report upon courses of study.[2] Your present committee, with a view to ascertain the drift of change since that report, sent out a very humble and inoffensive questionnaire, as follows:

Has your course in English undergone revision in the past five years, or is any change now contemplated?

What is the motive and what the general scope of the change, (*a*) in elementary school? (*b*) in high school?

What has been omitted or reduced?

What has been added or emphasized?

What change has been made in the order in which subjects are taken up?

Is greater or less emphasis laid upon grammar? rhetoric? literature? written composition? oral expression? spelling?

The fact that opportunity was given to answer for the grades and the high school separately seems to have caused some perplexity, and to have prevented some from answering whose work was not precisely in either category. In general, however, the questions have been promptly and generously answered. No

[1] This report of the Standing Committee on Courses of Study (William D. Parkinson, superintendent of schools, Waltham, Mass.; Albert Perry Walker, Boston Normal School; Grace L. Deering, English High School, Cambridge, Mass.) was submitted at the annual meeting of the New England Association of Teachers of English, March 9, 1907.

[2] See *School Review*, Vol. XI (1903), pp. 746–56.

attempt has been made to tabulate the replies, nor would tabulation shed more light than can be focused in a brief statement. Indeed, the most striking features of the replies would not appear in a tabulation at all.

Briefly, the replies show not a drift, but an eddy. Change is in the air, but motive seems not to have risen to consciousness, and changes of emphasis or of order move blithely to the step of "All hands 'round." Grammar is pushed from grades to high school in one system, from high school to grades in another, confined to first year in some high schools, reviewed in fourth year in others. Preparatory work has been deferred to the last two years in one school, extended over the four years in another. Emphasis is more on grammar and composition and less on literature in one school, vice versa in another. Reading at home is omitted here, the number of books read outside of school is increased there; all for the betterment of the programme. If any general tendency appears, it is toward reduced stress upon formal rhetoric and increased stress upon everything else named in our list. This increased emphasis all along the line seems to be made possible in some high schools by increasing the number of periods per week assigned to English. It would be interesting to know whether other subjects were correspondingly curtailed in any.

The returns seem to disclose an utter dislocation of the present from the past in a large proportion of the schools. It is made evident that, with very few exceptions, the high schools are without any course of study or syllabus by means of which teachers may know what has been done by previous teachers in the same position, or by preceding teachers of the same pupils, or even what is being done by other teachers in the same school. The replies show that the individual teacher is a law unto himself, and that in many instances he has not been long in his present position. He does not know what change there has been because his predecessor is now married—and it is impossible to ascertain what she did; or his predecessor did not do much anyway, and he himself has not had time to undo it; or certain classes have been transferred to other hands, and he isn't sure

what their fate will be. As to what is being done in the grades, he refers you to the superintendent.

Incidentally it appears that, in the absence of any course of study, teachers usually elevate the college requirements into the vacant place—a place for which those requirements were never designed and never adapted. Here and there the avowed motive of a change is to secure freedom from the bondage of college requirements, but more often it is to reach a better adjustment to those requirements. Evidently, were it not for the influence, whether attractive or repulsive, of the college requirements, the high-school teacher of English would be generally without moorings. Most grammar schools have some sort of syllabus or outline; and if any have not, there is usually a considerable number of teachers in each grade who compare notes, and this mutual understanding constitutes a cohesive force which prevents extreme vagaries. The high-school teacher, however, has no blazed trail. He may have a so-called course which designates the number of recitation periods per week devoted to English, but he is left to plot the real course himself. Small wonder that the college examination becomes his one landmark, and that he circles about it like the wanderer who has lost all bearings. He needs a syllabus even more than the grammar teacher. In all but the very large cities he is isolated from other teachers doing parallel work, and from grades above and below.

Nor have the college-bred teachers undergone a training approximately synoptic, as have teachers normal-trained. Each teaches as he was taught, at least until experience and observation have taught him anew. However original and fertile he may be, he needs some kind of road-book to guard against omissions, wasteful repetitions, disproportionate emphasis, to insure continuity, co-operation, a common and definite aim, among all the many workers who first and last are intrusted with the fortunes of the same pupil. In the absence of one made for him, he must make one for himself, and he needs as much aid from the experience of others as can be placed at his disposal.

In speaking of the course of study, we sometimes have in mind the process through which the pupil is to go under the

guidance of the school, or the process through which, under conditions more ideal than the school affords, we would have him go. From the practical standpoint, however, we are concerned rather with the means by which the pupil's course is to be shaped than with the course itself.

1. Our present inquiry, therefore, has to do with that programme, outline, or code of instruction, which is placed in the teacher's hands as a navigator's chart to give him his bearings, and to both aid and induce him to take his students over a safe and direct course to a chosen destination.

The teacher, then, should regard the course, not as a boundary fence or a railway track, but rather as a series of waymarks indicating points of departure, points of destination, points of danger, set up, not to resist or obstruct individual initiative, but to direct it along right lines and to check centrifugal tendencies.

Such a chart the teacher should not only desire, but should demand. He should be familiar, not only with the portion that relates to his own sections of the roadway, but with what precedes and follows—with the whole from beginning to end. He should make it his business to understand its purport; and, if anything in it seems to him inconsistent or inexplicable, he should follow it to its source for explanation or amendment. He should obey the spirit of it, and knowledge of its spirit should free him from bondage to its letter. His attitude toward it should be, not that of a mere operative, working out a stereotyped pattern in exact and painstaking detail, but that of a professional worker who is to be familiar with his commission and in sympathy with its ideals, is to interpret it in the light of actual conditions, and to exercise discrimination and skill in suiting means to its ends.

2. The course in English, more than any other course, may and should be one, consecutive, coherent, consistent throughout the pupil's public-school career, keeping always in view the same ultimate aim.

This is common-sense. No thoughtful person would regard the curriculum as a series of canal locks in which activity is to

be confined to a certain annual opening of the sluices called promotion, and in which continuity exists at no other time. Yet we find it sometimes dealt with upon that plane.

If the course is to keep the distant aim in view at every stage, both elementary and secondary experience should enter into its making, and it should be made by an authority in which the teachers, both elementary and secondary, have confidence. Its promulgation by an individual or by a volunteer committee will not carry far. Certainly it is too large a task for any committee constituted as this one is, or to be effectively presented in a report of this kind. It seems necessary that it be prepared by a body large enough to include many schools, in order that it may be put in permanent form and be widely distributed; but its form should not be too permanent, since frequent revision will always be necessary. Boston is preparing a new syllabus of which the elementary portion is already in the printer's hands, and the secondary portion is in prospect.

In Connecticut the Council of Education has essayed the task and its syllabus is an important contribution to the cause. In New York the state department of education issues such a syllabus. The elementary portion of it bears marks of secondary-school authorship, but the secondary portion is comparatively simple and practical. If some dignified body in each of our New England states could be enlisted, their several independent studies would promise results. It is better for such a course of study to rest upon authority in the professional sense only, and not at all in the official sense. Even in New York, where this principle is not always observed, the syllabus is suggestive only, and is designed to be adapted and elaborated to suit the needs of such schools as may accept it.

3. What is the ultimate aim which such a course in English should hold before the teachers of every grade or year?

Simply stated, it is to teach the pupil to read and write. So naked a statement must, to be sure, be clothed with large meaning, but it is better to have a watchword whose meaning unfolds as we approach our destination, than one whose meaning must be defined anew at each turn of the way. The secondary course,

like the primary course, needs to state its aim simply. But it must still set its mark high. Interchange of thought and feeling, intercourse of mind with mind—what is there of human life that is not comprised in this? To read appreciatively, to write effectively, means no less. It may be said that to listen and to speak are of first importance; but the man who can read—can he fail of ability to listen? And the man who can write—can he not speak? The less are included in the greater. To listen and to speak are of time. Theirs is the fleeting moment. To read and to write are of the infinite. They put man into companionship with the immortals. They are capable of boundless development; and our business with the pupil is to start him on through lines. Perchance he shall write the thing which he hath seen, the things which are, and the things which shall be hereafter. And who is able to open the ultimate book and to loose the seals thereof?

Our aim must be simple enough for all to see; but the higher the meaning you may read into it, the larger the vision you may open to the student as he fares toward the goal, the better. Grammar as a science, composition as an art, rhetoric as an accomplishment, literature as a cult—these have no place in the common-school curriculum. Until our conception of what it is to read and write has risen far enough so that these studies fall into line as subordinates, as a means to our end, we might better exclude the terms from our pharmacopoeia. Whatever of their elements make for more effective writing, for more appreciative reading, we may avail ourselves of; but we should avoid the use of terms which suggest subjects imposing in themselves, and which are likely to present themselves to teachers as destinations instead of way-marks. Even the college requirements recognize this principle, and, throwing aside all ponderous phrases, declare that the essential thing is to write good English. To be sure, the examination questions leer at you from behind the curtain and tip a sardonic wink, but there are signs of amendment even here.

4. To read and write being the goal toward which the teacher is to usher the pupil, the teacher's chart of direction should prescribe certain essential lessons to be taught and certain

exercises to be given at particular stages. What is everybody's business is nobody's business. There are symbols whose proper use is absolutely essential to reading and writing; there are forms of expression which pass current everywhere. They must be learned and practiced. These are not few in the aggregate, but they should be few at any one stage. They cannot be learned all at once; some necessarily precede others; some are meaningless to young children, and others will never be learned if not learned early. But they are not so definitely marked as to sequence or adaptation that even the most thoughtful teachers can be sure in which particular year they belong, or can safely apportion each to himself his proper share of responsibility for them.

Nor, as intimated before, can these lessons be grouped under certain heads or classed together under subjects, and assigned —orthography, grammar, composition, rhetoric, literature—each to a certain grade. All these in their elements enter into every grade, but none of them belong as subjects in any. Thus, spelling must begin in first grade, syllabication comes later, prefixes and suffixes still later, and certain rules for the adjustment of terminal appendages will still sound like mystic incantations to students well on the way to college.

Here we pause to say that the committee is unanimous in approval of simplified spelling. We are not of those who were hypnotized by the President's order, but neither are we of those who were stampeded by act of Congress. The public printer seems to be the final arbiter of that Lilliputian battle, and we leave the issue to him. But common-sense and the typewriter are eliminating useless letters and we believe that schools should cease to insist upon spellings which are fast becoming obsolete in correspondence, and which will certainly be obsolete in good usage by the time our pupils reach mature years.

But to return from this digression: As is spelling, so is punctuation—not a bolus to be swallowed, but a regimen to be pursued. The period and question mark are met in first grade, the comma in address a little later, comma in series later; while the colon and semi-colon can hardly become implements for the

student's own use in writing much before second year in high school, although their significance must begin to be weighed much earlier, in his reading.

We speak of technical grammar as belonging to certain grades, and we dispute prodigiously as to what grades. Technical grammar belongs in all grades. It is only theoretical grammar that should be excluded from any grade, and all grades. One of the first difficulties of the little child in reading has to do with pronoun and antecedent. Those names he need not learn, but the teacher who does not see to it that the child recognizes what persons or things the pronouns stand for, is neglecting a principle of grammar which is technical in the sense of having direct application to the practice of interpretation upon which the child is engaged. On the other hand, the distinctions of mode and the sequence of tenses belong late in the high-school course; other grammatical principles lie along the way between, and still others should await the college and the university. The New York syllabus makes grammar-study conspicuous from the seventh to the twelfth year.

In the same way, rhetoric in its elements has a place at almost every stage. Practice in narration begins very early. Reasons pro and con interest boys and girls of twelve. Figures of speech ought to be made vivid long before they can be classified or named. How are we to avoid chance omissions and vain repetitions unless such lessons are specifically assigned and the assignment is made effective?

In addition to the class of lessons thus indicated, there are certain more general lessons which may well be assigned with equal definiteness. There is a time for story-telling, for drill-reading, for declamation, for letter-writing, for teaching to use the index and dictionary, for teaching to use the public library, for introduction to the theater. Into this category comes the college reading. Then, too, the pupil ought each year to make a friendly acquaintance with at least one or two authors, and it is well that some thought be given to the order in which they shall be approached. All these are proper lessons for special assignment.

Enough has been said to illustrate (but only to illustrate) the point that a degree of definite assignment is needed, and that it should be, not by high-sounding and widely inclusive title, but in simple terms indicating single steps. In the main, the lessons to be positively prescribed are points of beginning, and those to be designated in the suggestive way are such as keep alive and in effect that to which the student has already been initiated.

5. This supplementary designation should not go so far as to limit the teacher's freedom or to take away from him responsibility for the exercise of originality, inventiveness, initiative. The course of study should encourage this exercise, and for this purpose it should set before the teacher another and larger class of lessons collateral, supplementary, illustrative, suggestive—such a repertory as a good teacher of exceptionally systematic habits will himself accumulate as years go by, to be used as he would use his own and to serve as a nucleus around which to form his own, reminding him of interests which else had eluded him, beckoning him to heights which he might not have attempted.

6. The course of study may set before the teacher more or less definitely the standards by which the pupil's success is to be measured at the several stages of advancement. This does not mean that it shall lay down a marking system, a scale of percentages, or a table of pedagogical logarithms. But it may by precept and example enforce the principle that in the measurement of the pupil's writing the gauge is to be applied, not to his display English, but to the English he uses when attention is not primarily upon its form. It will help to set the right aim before the pupils, if merit is reckoned, not upon what they can tell about English in an examination, but at least in part upon how they apply it in their written work in other studies.

Since such a basis of measurement is severe, it will become necessary for the teacher to reduce the severity of his criticism more nearly to the standard to which he can hope to hold his pupils, and indeed to the standard to which he holds himself. For we are all aware that when teachers of English, interchange

memoranda or letters, but few of the papers passed would escape the blue pencil if presented by students. Students can be held more rigorously to reasonable standards than they can to drastic standards. One great trouble with the standards both in the schools and in the colleges is that they are set higher than they can be maintained, and so have to be lowered in practice; and standards once lowered no longer serve the purpose of standards.

The measurement of the pupil's success in reading is properly based in part upon his interpretation of what he has read, as shown both by the expressiveness of his oral reading and by his answers to questions upon his reading. It should be in part, too, upon the keenness with which he interprets the questions themselves. Even such questions as are used in the college examinations may be useful, if it be understood that success is not to be measured by the approach pupils make to the answer the examiner himself has in mind, or by the extent of his resources for answering, but by the aptness with which he employs his limited resources in meeting the unexpected situation.

The difficulty with setting standards is that the finer qualities of reading and writing—literary flavor, appreciativeness of sentiment and humor and fancy, "the daily theme eye," as the contributors' club puts it—these are too subtle to be measured and too rare to be set up as requirements. They can be apprehended only by a sympathy quick and generous, and to attempt to set up tests and standards, employing the terminology of the professional critic, is to pull up the plant to see if it is growing. But while literary taste is not to be acquired by analysis of literature, and may even be blighted by it, analysis is essential to literary power. To cultivate literary appreciation and neglect analysis is like neglecting technique in the study of music. The course of study must provide for analytical and exacting study of good models. It must provide for this purpose selections which are not included in the range of literature within which the pupil is expected to find friends and companions. Necessary as dissection is, we do not employ it upon the bodies of our friends. Standards of measurement and ideals are two different things.

The latter cannot be too high. The former easily may. This fact is sometimes lost sight of, and the two are confused.

7. The course of study must be to some degree suggestive of method. To go into the discussion of methods would encumber it and tend to prevent its becoming really familiar to the teacher. It should not formulate methods, but it ought by its own gradation to influence toward inductive methods, to exemplify certain fundamental principles of development, and to discriminate between those earlier activities by which impressions are derived and those later ones which involve reflection; between those earlier lessons which widen the pupil's command over vocabulary, idiom, phrase, or varied construction, as means of interpretation, and that later development by which those same instruments are subdued to his use in speaking and writing.

8. The course of study should point the teacher to available resources. Lists of reference books, of books for outside reading, of selections for memorizing, of selections to be read by pupils, of stories to be told, brief lists of words to be added to the vocabulary, lists of suggestive topics or devices for stimulating pupils to write—all these have a proper place in, or in immediate connection with, the course of study. If they are well made, they are not only convenient, but stimulating, and they set a standard of literary quality below which the teacher will not allow himself to fall. They may be arranged roughly by years, and, like suggestive and illustrative lessons, they are to be regarded as summoning the teacher to use them, unless he finds something better.

9. The allotment of time to English as compared with the whole time-schedule, and the apportionment of the English time to the several phases of English work, is another essential feature of the course of study. In general it may be said that the whole number of recitation periods assigned to each pupil in high schools is too large. The colleges discourage their own students from taking any such number of periods per week as their requirements force upon those in the last two years of high school. But it ought to be said that the schools themselves err in assuming that additional periods of recitation will strengthen the

work in any particular when the aggregate number is already large enough. One is reminded of the steam-boat with a whistle so large that the engine had to stop to get up steam enough to sound it. Beyond a certain ratio of recitation time to study time the recitation time is increased only at the sacrifice of study time. This, however, is aside from our present theme.

The proportionate share of time set apart for English indicates also its proportionate share of emphasis, although the fact that English enters in such varying degrees into other studies obscures the real ratio. In general it will be found that from one-third to one-fifth of the time of pupils is devoted to English throughout their school career, the ratio being the larger at the earlier end and diminishing later.

No time allotment should be upon hard and fast lines. The varying aptitudes of classes, and of teachers as well, forbid such rigidity. But this very variety of propensities and needs makes it exceedingly important that some normal be laid down to restrain too wide departures. Within the field of English itself, too, it is desirable that some guide be had as to the proportion of attention to be given to practice in reading, to practice in writing—both in their larger sense—and to instruction in the mechanism and means of expression; but that a wide margin be left for those lessons whose purpose is inspiration rather than instruction or practice, and which may transcend all classifications. So far as any division is indicated in the courses at hand, these three phases share about alike in both elementary and secondary school, except that in primary grades learning to read necessarily predominates. Whether in high school the prevalence of the three-period-per-week allotment to English has something to do with this equilateral triangular division, or whether it is the result of deliberate judgment, may be a subject of discussion.

In answer to our question as to what, in the process of recent change, has been omitted from his course of study, one teacher replies: "Talk about expression." This answer seems to imply restiveness under the yoke of fashion.

The question arises: Are we laying too much stress upon

expression at the expense of impression? The outlet should not be larger than the inlet, and if we expect any force at the outlet we must make the inlet the larger. We do well to recall that the writing and speaking vocabulary, and the whole speaking and writing currency, must be coined out of the bullion first mined, assayed, and refined in interpreting the expression of others. The attempt to force the process of expression up too near to the level at which impressions are received, or to force the speaking vocabulary and idiom too near to the listening vocabulary and idiom, may possibly limit the latter, and so limit both. To write even a business letter, one must reckon with what will be read between the lines. And one does not learn so to turn a phrase as to make it vibrant with meaning who has not first felt the vibration of many phrases and learned himself to hear the overtones that ring between the lines of what he reads. The one power must follow and be derived from the other, and must follow far in its wake.

One lesson a week devoted to the presentation of written work, conference and instruction upon it, and revision of it, should insure better results than are usually obtained in a four-year course. However many more periods per week are allowed for English, they may profitably be devoted primarily to the interpretive side, with such written and oral practice as are incident to it, which should be as free from the didactic element as may be.

Our returns show increased attention to oral expression. Here again caution is needed. The average English division in high schools is probably not less than twenty-five. In such a class oral training for one means aural training for twenty-four. To require twenty-four minutes of listening to one of oral expression, even assuming that the teacher keeps silence—which is not always a safe assumption—is certainly reversing the danger last alluded to. But the listening training one gets while another is practicing orally is not usually the best exercise of attention. Permit another brief calculation. The twenty-five pupils seldom average over one hundred and fifty minutes per week in class throughout the high-school course. Supposing

the teacher to maintain silence and all work to be devoted to oral expression, then each pupil will have six minutes a week for oral expression. Plainly, written expression and written testing of outside reading must largely predominate, if the school is to employ its time economically upon such a basis; and such oral training as can be given must be largely in the way of starting the pupil upon oral inquiries, conversational themes, oral readings, or declamatory practice or debate, which shall be conducted in large part outside of school.

All that can be done along these collateral lines is clear gain. And the oral reading of impressive passages, as an indispensable means of gaining insight into literature, must have a place in the time allowance. But the limitations of oral expression in class teaching must be recognized. Not only has written language the advantage in economy of time, but it affords opportunity for that close scrutiny by which one may learn to weigh the full significance of what one reads, and to revise and intensify the significance of what he writes.

10. The course of study must take account of the psychology of the teacher as well as that of the pupil. It is not the course as written in the syllabus, but the course as interpreted and administered by the teacher, that counts. It must be constructed with due allowance for shrinkage and some for breakage. There are certain prevalent tendencies among teachers to be indulged or to be restrained. It is not necessary in this presence to elaborate upon them. We recognize them in ourselves, and we may with complacency confine our mention of them to those of which the best teachers are themselves conscious.

There is the tendency to expect too much of the pupil, to overestimate his resources, to forget that he has not as a background that great complex of convention and experience which is second nature with us. It is this tendency that requires the course of study to distribute elementary lessons over a longer period than teachers themselves are tempted to do, and to follow each with a longer season of simple practice.

There is also the tendency to expect too little of the pupil, to underestimate his powers within the range of his resources, his

keen intuition, his depth of feeling, his personal poise. It is for this reason that the course of study needs to suggest literary models of a quality above what the pupil can be expected to analyze, and topics of a variety wide enough to tempt his response, whatever his interests.

There is a tendency to anticipate the work of a later stage. The teacher with his class on the double quick, having surmounted the breastworks, is fired with ardor to invade and conquer the whole realm. And, even if he is compelled to fall back within his own lines, he still feels that the momentary triumph was worth while; for the class has had a real taste of battle and will strike harder next time. This tendency would contain its own safety check if only the same teacher were to lead the class henceforward; for he would discover and weigh the effect upon future work. But in our wasteful bucket-brigade system of gradation, in which pupils change teachers annually or thereabouts, the course of study must hold the rein upon this tendency in so far as to keep one teacher from too far invading the province of the succeeding one. And it is extremely difficult to do this effectively without also dampening the very ardor which counts for so much in lending genuine impetus to pupils. On the other hand, the teacher of the grade above is in danger of attaching quite too much importance to having pupils at first hand in his subject. It might be convenient for the instructor if knowledge were parceled off in original packages to be transferred under seal to the cells of the brain, but the convenience of instructors seems not to have received first consideration in the original design. There are bound to be interlacings of subjects in every mind; and most minds must put forward a skirmish line, even if the new territory loses some of its freshness thereby before the main advance comes.

A more conspicuous tendency, and one which in a measure counteracts the last, is the tendency to be tyrannized over by the teacher of the grade above. It may seem odd to state this tendency in the passive voice, but it is in that voice that it must be predicated. There is little conscious tyranny, but there is a sensitiveness amounting almost to superstition among teachers

of all grades, which leads them to attach undue importance to what the teacher of the grade above may expect of the pupils, or may think, or worst of all may say. No little time is wasted in every school in preparing the pupils to answer questions which the next teacher may chance to ask. The tyranny of the college examination questions only illustrates this tendency. It is just as real in the grammar school and in the primary school, particularly, but by no means exclusively, where the grade above is in a separate building. Curiously, no teacher, however subject to it himself, ever seems able to understand why this feeling should exist in the grade below. This tendency is relieved to a degree when teachers are able to look to a course of study instead of to the next teacher; but in the main it is to be remedied by bringing the teachers together.

The last tendency to which reference will be made is the tendency to formalize; that is, to elevate a topic into a system, a branch into a department, an exercise into an art, each elaborated in detail, with complete classification and technical nomenclature. It is a tendency of the best minds to pursue a subject to its outer confines, and in the complexity of interests it is with difficulty that any of us limit ourselves to the simple and the elementary.

The textbook-makers skilfully foster this tendency. The enterprising youth who would learn to read and write must now carry in his satchel a grammar, a manual of composition, a rhetoric, a handbook of English literature, perhaps another of American literature, and a small library of annotated texts. Nor can he travel far from a dictionary. The volume of didactic print he must wade through forbids any extended reading of literature. Even the child who would write a letter must have it pigeonholed in his mind under the heads of business, polite, or friendly (and what a dire calamity if their ingredients should get mixed!) then thread the labyrinth of date and address and salutation and body and conclusion and subscription. It is because of this tendency that the course of study should steadily enforce simplicity, employ simple terms, point to simple lessons, and, if it must introduce the pupil to the dialect of pedantry, do it as the

Connecticut course does, presenting its technical terms, not as additional branches of study, but as accessions to the working vocabulary. The importance of simplicity cannot be overemphasized—simplicity of terms, simplicity of lessons, simplicity of processes, simplicity of instrumentalities.

The conclusion then is that a syllabus in English is needed; that it should be catholic enough to exercise a steadying and unifying influence over a wide area; that it should be made consecutive throughout the course, elementary and secondary; that it should lean always to the side of simplicity—simplicity of aim, of work, of treatment, of phraseology; and that this association should take steps toward its construction, not by a committee of its own body, but by some agency with resources for publication and circulation upon a large scale, sufficiently organized to carry on a thorough investigation, to discover and to command the co-operation of the best teachers of all grades, and while according due recognition to the views of all, to hold the scales between conflicting tendencies.

THE YEAR'S PROGRESS IN THE MATHEMATICAL WORK OF THE UNIVERSITY HIGH SCHOOL

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To save the teachers concerned in the pedagogical enterprise now going on in the University High School from the charge of vainglory a few preliminary remarks may be allowed to put this report in the right light.

In the first place, these teachers feel that most of the benefit that has thus far accrued from concert of effort has been personal. It has shown them to themselves to the very considerable gain in their professional efficiency. It has keyed them to a livelier sense of needs, and to a keener appreciation of remedies. It has added to their professional skill in the arts of diagnosis, of prognosis, and of prescription. As to these benefits, however, it seems most fitting, professionally, to let the work speak for itself.

In the next place, the experiment is still in its comparative incipiency. Not to mention any of the numerous unavoidable interruptions and interferences that have beset the way, two years is too short a period to work out in theory and to test out in practice a modern curriculum for high-school mathematics. Much good theory can be spun in two years, but the practical trying-out of theory, under a sufficiently extended and varied set of conditions to give to it breadth and depth of interest, proceeds more leisurely. It is then, too soon to pronounce even with high probability what the outcome will be. There have been along the way criticisms enough to conserve in the participants a due modesty. Some of these criticisms have been off-hand, and hasty. Some have been warranted; and not a few of the most telling have been due to the unavoidable circumstances; that the new has been compelled to patch up the best it could with the old, while matters are forming, and that the new has

always been judged exclusively by old standards. For reasons, then, that are readily appreciable by all, the natural inclination of the teachers that are directly concerned in this experiment is just now to devote their energies rather to sifting these criticisms and to a careful scrutiny of their pedagogic practices in the light of them, than to public professions of progress already made—until a stronger case than is yet possible can be made out.

But after all, what should most concern teachers that are striving for better things is not so much the question either of compromising professional dignity, or of convincing others that they are right, as of getting themselves right; and then of sharing with "whom it may concern" the benefits of their experience. Newton was perhaps overmodest in declining to publish to the world the results of his researches out of fear of being "persecuted with discussions" arising out of his theories. Smaller minds are usually less troubled with undue modesty. In the present instance, at any rate, the persons involved have no serious anticipations of being so "persecuted" with the necessity of defending their findings as to be led to blame their "own imprudence for parting with so substantial a blessing" as their quiet "to run after a shadow." These persons will readily be pardoned the mild presumption of the claim that, under the inspiration of this experiment, they are rendering a higher quality of professional service than they could render without it.

Moreover, the editors of *The School Review* have assured them, while asking them to state through its pages what the year has wrought mathematically, that some of its readers will con the record with interest. If the editors prove to have been correct in their assurances, it is not too much to expect that the attritions of reciprocal experiences with a common problem may in some persons heighten interest, if not stir enthusiasm, for better results from the teaching of secondary mathematics.

PREPARATION FOR HIGH-SCHOOL MATHEMATICS PROPER

The current pedagogical dictum that *the elementary school is not to fit for the high school; but to fit for life,* when rightly interpreted, is sound. But current practice in the elementary

school frequently misinterprets it. Most elementary teachers know that this thought was first uttered as a protest against the too common practice, in our highly mechanized school system, of paying too great attention, in the training of children, to the preparation needed for the next higher grade, or division, of the school, and too little attention to the individual pupil. In applying the foregoing dictum in their practice, nowadays, many teachers unduly stress the phrase *not to fit for the high school.* The misinterpretation referred to results from the failure of many to see that the high school is *a part of life.* In case of not an inconsiderable number of boys and girls, it becomes a very important part of life. The interests of these boys and girls are as much—I was about to say "just a little more"—entitled to consideration, as are those of the boys and girls who, from necessity, or choice, cut the high school out of their lives. The sin of ignoring in the high schools the special interests of the boys and girls who will go on to college is no greater than that of overlooking the particular needs of those in the seventh and eighth grades who will go into the high school. To do the latter, is to go far toward narrowing the conception of the elementary school to that of a nursery of a "hopeless mediocrity." Such a conception of the elementary school even those who are ignoring the interests of the intending high-school pupil would resent. The elementary school is and must be kept a school of the best nurture in the best things *for all pupils—including those who will go on to high school.*

The pupils of the first year of the University High School come from a large number and variety of elementary schools. One of the most important findings of the year originates partly in this fact and, in still larger part, in the misconception on the part of many seventh- and eighth-grade teachers, of the manifest function of the elementary school, touching high-school interests. The year's work has revealed most conspicuously the need of giving more attention than has been the custom to gathering up, systematizing, and evening up, with reference to immediate mathematical purposes, the attainment of pupils just entering high school, before taking up high-school mathematics

proper. Too often pupils enter from the best elementary schools almost entirely devoid of the language of arithmetical science. An "up-to-date" elementary teacher seems to fear it will reflect professional discredit upon her to teach the standard processes of fractions, without which nothing mathematical beyond the merest rudiments of arithmetic can be handled. Factoring in the elementary schools seems to be rapidly becoming a lost art. Everything arithmetical in the grades is running to simple, little oral exercises that can be talked of without a moment's thought, and for which little or no school arithmetic is needed. In a word, arithmetic seems to be rapidly degenerating into mere labial and lingual exercises. And even the language used in the arithmetic is the commonest vernacular, not the language of the science at all. This leaves matters in a pretty bad state for high-school mathematics.

Accordingly, hereafter in the University High School a distinct feature of the mathematical work of the first year is to be the devoting of the first three or four weeks to a critical survey, with chief emphasis on the scientific side, of the most fundamental parts of arithmetic. The topics to be thus rigorously examined and summarized are: (1) the fundamental operations applied to integers and to fractions (both common and decimal); (2) tests of divisibility; (3) factoring; (4) greatest common divisor and least common multiple, by the method of factors, and (5) the language and terminology appropriate to these topics.

It is thought that after three or four weeks of this explicit scientific rounding-out of these topics, the work of finishing the mastery of them will be reduced to proportions making it practicable to conclude the arithmetical treatment of each topic as a preliminary to the algebraic, or geometric, treatment of the analogous topic. This period of explicit study of formal arithmetic will close with a series of tests that will guarantee, in those who stand them successfully, a modicum of much-needed attainment and some homogeneity.

The most opportune time for such work is, of course, in the grades as the closing feature of topical treatments of arithmetic.

Much of the arithmetical confusion that now afflicts elementary-school pupils is due to the fact that this concluding step is not taken in a large proportion of our elementary schools. In fact, the only escape from this confusion lies in doing just this pedagogical service to the child. Textbooks sometimes aid and abet in this fault by offering to the learner nothing but an unsystematized mass of problem-material, with little or no organization with reference to scientific arithmetical content. Over-spiralized arithmetics have wrought great havoc of late years in the educative worth of arithmetic, by eviscerating it of its scientific quality. From the point of view of pedagogics, of culture, or of practical and economical efficiency, the argument for the need of supplying this important step in elementary arithmetic teaching is the strongest. Unless this step is taken at the proper psychological time, the educational point in arithmetic teaching is never quite made.

Unfortunately, the remedy for this deficiency can scarcely be expected until teachers qualify for a higher degree of practical proficiency in the three classical R's. Many elementary-school teachers seem not to appreciate the important truth that quite as much help to practical teaching is to come from an earnest study of the pedagogics of the old subjects of instruction as of the new. Here as elsewhere the chase seems to be ever after the new. In our determination to preserve in the elementary school the best of the old and the best of the new, we cannot afford to forget that what is best today in the old can be made better just as surely as can the best of the new. Instead of catering so much to those who "wish to specialize" by bespattering themselves from six weeks to six months with one of these new subjects, may we not hope soon to see the normal schools and colleges of education giving much more aid and encouragement than is now given to the psychologizing and professionalizing of the standard subjects, and to the training of "special teachers of elementary school mathematics," of "special teachers of history," of "special teachers of geography," etc., for grade work? Happily, the urgent need for the once-dreaded "departmental work" gener-

ally in the elementary school is growing daily more keenly felt and more popular among educational experts. The above-cited finding is only another concrete manifestation of the need. The dangers, which were once feared by elementary-school experts, and which they sought to avoid by eliminating departmental teaching, vanish as teachers become thoroughly well qualified professionally for their work. The spectacle of a curriculum split apart longitudinally here and there by short-sighted departmental teaching, but still held together vertically with some tenacity, is less deplorable than that of a curriculum cross-sectioned horizontally in eight places before reaching high school and with only such feeble vertical coherency in the several lamina, as can be given by the necessarily shallow hold of a single teacher charged with professional responsibility for a dozen different branches and a half hundred pupils. No "general pedagogic proficiency," if indeed there be such a thing, can prove equal to so stupendous a task. The problem is a specific one, and needs explicit attention, particularly in the mathematical work of elementary schools.

THE FIRST YEAR'S WORK CRITICIZED

The work of the first year in secondary mathematics proper is precisely the subject-matter of the manual published by The University of Chicago Press, and entitled *First-Year Mathematics for Secondary Schools,* by the writer, assisted by the instructors in mathematics in the University High School. This book, which is a sort of first-fruits of the University High School functioning as a laboratory for educational experimentation, is put into the pupil's hands as soon as he has completed the arithmetical preliminaries referred to above. He comes now to the mathematical work of the high school with considerable knowledge of arithmetical number and of mensurational truths. To break away from all this for a year or more, by injecting algebra as an isolated and self-contained subject, as is the custom, is unpedagogical and wasteful. The authors of this book, which is the first of a contemplated series covering the entire field of secondary mathematics, believe that the best use

that can be made of the first-year pupil's time is: (1) in generalizing and extending arithmetical notions; (2) in following up the notions of mensuration into their geometrical consequences; (3) in reconnoitering a broadly interesting and useful field of algebra, and (4) in treating, with sufficient completeness for high schools, a large part of what is most practical and most useful in elementary algebra. This means postponing the scientific and purely logical aspects of algebra to a later period. Such definitions as are needed are taught just where they are needed, and not didactically, but through a range and variety of illustrative uses.

The sources from which problems are drawn are arithmetic, mensuration, geometry, physics, and elementary mechanics. The treatment of these materials is given unity and balance by distributing them throughout the text wherever they render most effective algebraic service. The equation is made the starting-point and agency for developing the topics considered. In other words, the attempt of this manual is to bring together, to enrich and extend, and to begin setting in order the quantitative side of the pupil's experience. The book is essentially an extensive and varied body of mathematical ideas correlated around an algebraic core. The treatment begins with the informal methods of inductive arithmetic, passes to the uses of the equation and to its transformations, and by degrees assumes a deductive character.

Thus it is seen that the authors regard deductive logic as something to be taught explicitly, but gradually. Two years of experience in practical use in all the first-year classes of the University High School have furnished convincing arguments to parents, teachers, and administrative officers of the practicability of a correlation plan of teaching first-year mathematics, and all who have been immediately concerned in the plan are certain of its superiority, educationally, over any sort of sequence of separate mathematical subjects.

CRITICISMS

1. Too few concrete exercises, or exercises with arithmetical numbers, before requiring pupils to generalize out the algebraic formulation of the truth, or principle, to be taught.

A single problem in arithmetical numbers used merely *to illustrate* an algebraic truth, or process, is only another form of didactics. The generalizing act is extremely difficult to high-school pupils whose antecedent instruction has been of the common *direct* variety involving nothing on the learner's part but to assent and to remember. To say nothing of the unjustifiableness scientifically of generalizing from one, or two, or even half a dozen particular instances, the unpracticed pupil fails utterly to bring the act of generalizing about without a large number of instances. Indeed, the better skilled one becomes in generalizing the more indispensable does he feel the need of a larger number of particulars. He is bound to feel, not merely that there is a truth imbedded in the illustrative exercise, but also that it is a manifold, a general, truth as well. Teaching, or rather explaining, the several topics of algebra by means of one, or even of two, illustrative problems is precisely parallel to the antiquated science teaching, in which the teacher himself merely performed an illustrative experiment before the eyes of the class.

For example on page 6, Problem 1 reads: "A boy rides on his bicycle 8 mi. in one hour and 5 mi. the next hour; how far does he ride in the two hours?" Then comes problem 2. "If the boy rides a mi. the first, and 7 mi. the second hour, how far does he ride in the two hours?" It is clear that there should have been three or four problems like 1, given in rapid succession before passing to problem 2, that the pupil may feel the *generality of the way of doing all* such problems. *One* illustrative problem misses the point, because it drops out the essential element in reaching it. It only *exhibits*, without *substantiating*, the truth. It simply *faces* the mental machinery in the right direction. The substantiating is the essential thing. This criticism is much more telling against any other high-school text on algebra, yet in print, even the youngest claimant to attention that is not yet half a year old, than against the present book. But it is real, and justifiable here. Authors are very loath to admit any *real induction* into algebra.

2. The chapter on "The Uses of Inequalities" is too difficult, because too abstract. This introductory chapter was inserted

here as a background against which the equation could early be thrown into bold relief. Until the pupil feels that there are other working relations between numbers than the equational relation, he cannot do more than take on faith that the equational relation is a real and important relation in problem-work. It was the purpose of the authors to impress the learner as early as possible in his career that the relations of the equation, of inequalities, and of proportionality constitute the essence of algebra from the view-point of its practical worth for problem-solving. One can no more feel the worth of anyone of these relations without another one of them to compare and to contrast it with, than he could become conscious of redness, if there were no other color than red in the world. The end sought is therefore only partially attained, because the treatment was made too abstract, and hence, too difficult. This will be remedied, of course.

3. There is not enough of practical geometry in the text.

Practical problems of a constructional, or mensurational, character appeal to the first-year pupil unquestionably with greater drawing force than do any other problems of the text. There should be considerable constructive work, such as drawing perpendiculars, parallels, rectangles, triangles, etc., under specified conditions. Almost none at all is called for by the text in its present form. Such work, so far from consuming too much time from the algebra proper, as was feared, very materially accelerates progress, by the greater clearness and steadiness of thinking which it begets.

4. From chapter xv on the proportion of verbal problems to formal problems is too small.

There is now no question as to whether a sufficient quantity of formal algebra can be covered during the year on a correlation plan. More formal algebra is covered by this text in the first year than is attempted by other texts. The vague fear of timid teachers, that the introduction into the elementary algebra of cognate material from arithmetic and geometry must contract by just so much the algebraic ground covered, can be set aside as a purely subjective phenomenon. More ground is better covered,

and more pleasurably covered, under the vitalizing influence of such work than can be done by narrowing the ken of the learner to pure algebra.

The difficulty met on the more restricted plan is that formal problems do not impress the learner as being problems at all, and, as enforced work, they color the pupil's thinking so faintly as to make an inordinately great quantity of them necessary to fix any ideas at all. The mode of teaching algebra by "a large number of easy formal problems" is inane and wasteful, because the ideas such problems generate are so scanty, so feeble, and so uninteresting that, to fix any notions at all, topics must be covered, and recovered, then reviewed, and re-reviewed so repeatedly as to tire the learner out with the profitless "threshing of the old straw." Relatively fewer problems—problems of a verbal sort that have in them enough vitality to stir in the learner mental reactions of a nature both positive and friendly—are what is needed in the latter half of the book. The present text errs less than the standard texts in this regard; but its faults are grievous enough to call for drastic corrective treatment. In the fear of not covering enough formal matter, the text has slipped too abruptly into the common mistake of over-formalism. Without going with some advocates of reformation to the extent of excluding all formal exercises, it is clear to those who have taught the book, that a very much larger proportion of its problems should be of the verbal sort, that require as an organic part of their solution the formulation of the necessary equations in the symbols of algebra. This brings us to the next criticism.

5. After completing the text, students have too little ability to translate verbal into formal algebraic statements and *vice versa.*

The text contains a large number of the formulas of physics. After receiving numerous complaints from the teachers of physics that pupils who had been given in the mathematical classes much training in handling precisely the equations and formulas that they were not dealing satisfactorily with in the physics, the writer reported the matter to the mathematics

teachers. After a little investigation it was found that precisely the same students were dealing with these equations and formulas in both physics and mathematics. To guard against such complaints—which were not new—the classes were being given a rigorous review as third-year students in the mathematical class. The situation that now developed was that in the mathematical class the teacher, no matter how much he strove to complicate matters, could not even perplex the students with these formulas. He reported: "They simply ate them." Nevertheless, in the physics classes the students had *very serious* difficulty with the formulas. The science teachers continued to complain.

The upshot of the inquiry was that the difficulty in the physics was at last located. It was found to be *in arriving at the formulas from the verbal statements and metrical truths* out of which the pupils were required to derive them. Concentrated practice in the mathematical class on the translation of verbal to formal statements and *vice versa,* furnished the desired relief very shortly. For the benefit of others who have not yet found relief from the charge of science teachers that third-year students of high-school mathematics cannot solve the simplest algebraic difficulties that arise in the science work, it may be remarked that the sort of modification of current algebra teaching, that will relieve the charge by removing its cause, is to give much more training in handling verbal problems, by requiring the pupil continually to translate verbal into symbolic language, and the reverse. The remedy is easily applied and, incidentally, the pupil will also be thereby greatly benefited mathematically.

THE SECOND YEAR'S EXPERIMENT IN RETROSPECT

In the second year the emphasis of attention shifts from the algebra to the geometry as a unifying agency. The arithmetical and algebraic elements are not dropped here, but are merely subordinated to geometrical demands and interests. Measurement, calculation, and equation-solving are faithfully kept up. But just as throughout the first-year work geometrical matters were made to serve the purpose of illuminating, illustrating, and

reinforcing a central body of algebraic truth, so here, all antecedent mathematical knowledge is to play this subordinate rôle to a central line of geometrical thought. Geometry gives trend, organization, and unity to the whole. Building directly on the conceptual work of the preceding year, the work of the second year gradually assumes a purely deductive and demonstrative character. As to scope, it covers plane geometry, but since it treats plane geometry very largely from the view-point of the necessities of the mensuration of the surfaces, and the volumes of the standard geometrical solids, the truths of solid geometry are not rigorously excluded. In connection with similarity, the trigonometry of plane right triangles is to be given. Only a start in this direction was made last year. So much for the ultimate purposes of the second-year work, and for the extent to which they were actually pursued practically.

As an immediate means of attacking the practical problem of approaching this end, it was determined to try last year the European plan of carrying geometry and algebra along through the second year side by side. To keep to the beaten track as closely as possible, since the problem in hand is fully as much one of practical availability as of scientific soundness, the five periods of forty-five minutes each, per week, available for mathematics were to be divided approximately into three periods to geometry to two periods to algebra and arithmetic. This was thought to be a safe means (1) of deriving directly from experience some definite ideas on the practicability under American conditions of the plan of long and approved standing in German and French schools; (2) of facilitating the work of teachers on the plan of unified algebra and geometry by keeping both subject-matters fresh in their minds through their daily professional duties; and (3) of holding, for the pupils, the algebraic ground already made during the first-year, and perhaps of advancing a little, while laying the geometrical foundations. This plan, to which this retrospect exclusively refers, was followed with modifications by individual teachers throughout the year, with the single exception of one teacher, whose antipathy to the plan would not allow him to try it out. Later

this teacher did a little with the plan, but he still feels it to be impracticable and more undesirable than the common plan. A by-product worth mentioning here is that the attitude of mind of an experimenter in practical education outweighs all other factors in determining the issue.

The other teachers found that in the present state of American textbook literature two textbooks with two independent, parallel lines of work are both distasteful to students and unsatisfactory as to results. In the first place, students keenly felt and freely stated that they could see no reason for passing abruptly each week from one of the subjects to the other. They no more than began to feel they were getting a sort of hold on one of the subjects until they were taken away from it long enough to forget much of what they had got from it. This annoyance was somewhat reduced by an agreement among the teachers that each should change from one subject to the other at such places as the change seemed natural and helpful, conforming, by and large, to the division of the recitation time of three hours to two hours between geometry and algebra. As mentioned, this helped, but it rapidly became clear to all that what was most needed was not a standard American text on algebra, but rather a compilation of problems of a kind to connect the two subjects, problems based on geometrical principles and thinking, and solvable algebraically. A very considerable list of such problems was originated and collated. This list has since grown to more than nine-hundred exercises, in which the formulation of the equations required demands geometrical knowledge and power, while the solutions call for practice in algebraic equations and principles to and through quadratics. This list is classified with reference to geometrical concepts and uses. It is published by The University of Chicago Press. Without disturbing present curricula in the least, mathematical teachers might well use this list as a means of keeping the algebra fresh, through use, during the second-year work in geometry, by assigning problems from it as exercises, or as home-work, supplementing the regular geometrical work.

Obviously, more will be known of the full purport of the

second-year work after the third-year work is taken up. It may, however, be safely said that the second-year class has covered, and in a better way, as much geometry during the year as classes did formerly, and that the pupils have advanced considerably in their practical hold on algebra through putting it to continual use in their geometry. This plan will be continued.

The phases of geometry that stir most interested activity in high-school students are its constructive, mensurational, and metrical phases. An interest and a faith in the science of deductive reasoning are essential antecedent conditions to its profitable study. Through those phases of geometry these necessary conditions can be most economically reached. Most of the teachers the past year followed the Sanders' text in geometry, but experiments were made with a subject-matter formed by rearranging the propositions and truths of geometry into an order demanded by mensurational needs. This aroused in pupils a real interest in, and a growing regard for, the practical utilities of geometry. Pupils were generally willing to take up the deductive proof of a proposition that was seen to be needed to find the areas of the surfaces, or the volumes, or to construct the parts of the surfaces of the standard solids. A text in this tenor, which is in the nature of an educational experiment, is now being worked out by the mathematical faculty of the School of Education for the second-year classes. As to subject-matter it may be well characterized as *geometrized* mathematics, with emphasis on practical uses. It will be modeled somewhat closely on the following tentative plan.

THE POINT OF VIEW

The areas, volumes and other properties needed in measuring numerous surfaces and solids may be expressed in terms of the areas and properties of a few simple surfaces and solids that may be regarded as standard forms. The standard solids are the cube, the square, and the oblique block (called parallelopipeds), the prism, the pyramid, the cylinder, the cone, and the sphere. The standard surfaces are the surfaces that bound these solids.

Geometry has for its chief office to show about these standard figures the following five things:

1. What their areas and volumes are;

2. Why these areas and volumes are what they are found to be;

3. How, with compasses and ruler, to construct these standard figures;

4. Why these constructions are correct; and

5. How the treatment of more complicated figures is reduced to the treatment of these standard figures.

Examine a cube and name the faces that make up its surface.

Examine and name the forms of the faces that make up the surfaces of the square block; of the oblique block; of the prism; of the pyramid; of the cylinder; of the cone; of the hemisphere.

On the surfaces of these solids the following plane surfaces have been found: the rectangle, the square, the triangle, the parallelogram, other 4-, 5-, 6-sided, etc., figures, and the circle.

The areas of these figures will now be studied. We first take up the rectangle.

Here will follow the treatment, for the commensurable cases, of the deductive proofs of the customary propositions on the areas of plane surfaces.

Definitions are to be given where they are first needed and perhaps summarized at the ends of chapters.

OUTLINE OF CHAPTERS FOR PLANE GEOMETRY

I. An introductory chapter on constructions.

Enough constructive exercises, without theory, will here be given to enable pupils to make drawings of the figures needed in the propositions, with sufficient precision to make possible as an approach to the deductive proof, an approximate metrical proof of the principle to be established.

II. The Mensuration of Figures, using only commensurable cases.

This chapter is to be begun essentially as suggested above under the caption: The Point of View.

III. A chapter on Standard Geometrical Methods.

IV. A chapter on the Circle.

V. A chapter on Similarity, with the Beginnings of Trigonometry.

VI. A chapter on Polygons in general.

VII. A chapter on Regular Polygons, and the Mensuration of the Circle.

VIII. Perhaps a chapter on Maxima, Minima, Symmetry, and Loci.

The treatment of solid geometry to follow later, cannot be now sketched with greater detail than to state that it will follow the general plan of mensurational needs, very similar to that given above for the plane geometry.

THE GENERAL PLAN AND METHOD OF TEACHING

As already hinted, a distinct feature of the plan of presenting deductive geometrical proofs is the mode of approaching the propositions, and of putting meaning into them for the pupil before he is called on to prove them. It consists in general of five different steps, viz.:

1. The figure required by the demonstration is first sketched, in the rough, in a way to exhibit clearly the conditions under which the truth in question is to be established.

2. A careful drawing is next made on paper, or on the blackboard with ruler and compasses, under the specified conditions, and the appropriate parts of the figures that are drawn (protractor admitted) are then carefully measured.

3. Pupils are now required to make the best possible inferences as to the conclusions that follow from conforming to the imposed conditions.

4. A correct enunciation of the principle to be established is here made, and

5. A deductive proof is then given in standard form.

This method is followed, with modifications and abridgments, until the pupils get into the spirit and meaning of deductive argumentation. The scheme gets at many of the possible virtues of geometrical education that standard and customary presentations, either miss entirely, or stress so slightly, that they

leave no permanent impress upon the learner. Space can permit only the mere mention of some of them here.

1. Training the sense of number, and of dependence of form and of magnitudes upon imposed limitations, or conditions.

2. Training explicitly of the faculties of observation, of inference, and of judgment.

3. Training in ways of discovering new geometrical truths and in using deductive reasoning to establish, or to overthrow, suspected truths.

4. Secures clearness of conception and firmness of grasp of the meaning of theorems to be proved.

5. Impresses the novice with the inadequacy of pure metrical means and with the necessity of demonstrative methods.

The mode of conducting the class-work, in so far as there is a mode in a definitive sense, is a combination of the laboratory, the experimental, the Socratic, and the class-recitation modes. In general, the plan of administering the class-work is that of developing with the class the theory of the subject, and of assigning home-work which is of the nature of exemplifications, illustrations, and exercises to clarify and to impress the theory, and of following out fuller consequences and developments of the theory. The pupils' efforts are thus steadied by the clear grasp of sound theory, worked out in no haphazard fashion by himself, but under the guidance of one who is in full possession of it. His independence and his self-confidence are strengthened by his unguided, individual work, which is taken up always with a clear grasp of a fairly well-wrought-out theory. This plan has been proved to be best balanced, most economical and at the same time the most productive of interest and profit to the learner of any that has yet been tried.

PLANS FOR THE ENSUING YEAR

The present purpose is to follow the procedure just sketched both as to subject-matter and method of presentation with both the first- and second-year classes. This covers the ground of *the requirements* of all pupils of the University High School as to mathematics.

For the elective courses of the third and fourth years, consisting of advanced algebra, plane trigonometry, solid geometry, and college algebra, standard texts will be used, and the customary procedure followed, with the exception that plane trigonometry will be given just after advanced algebra, and before solid geometry. This order was followed last year with so much better results than usual that it will be continued.

The emphasis that has been put upon the utilities of mathematics in the first two years has developed interests in the pupils for the applications of mathematics, that have made it desirable to introduce three new courses. A course in plane surveying, following immediately the course in plane trigonometry, and in a very real sense, merely continuing the plane trigonometry, which is taught largely through the uses of the subject in surveying, has proved to be very much needed. It will be given to fourth-year classes this year. This course in plane surveying will be followed by an optional course in observational, metrical, and descriptive astronomy. Finally, a course in high-school arithmetic of a fourth-year grade of difficulty will also be given. This course will be open to students of both the high school and the College of Education. It will include a brisk review of the essentials of arithmetic with reference to fundamental principles, and will treat certain topics, such as compound interest, annuities, averages, graphing, the progressions and logarithms, etc., that are deemed too abstract for elementary arithmetic. College algebra and solid geometry are given primarily for students intending to enter certain technological schools that have very high entrance requirements in mathematics.

THE DEVELOPMENT OF SECONDARY EDUCATION IN SCOTLAND

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BURGH AND GRAMMAR SCHOOLS (1100–1872)

The history of the development of the Scottish school system is very interesting. Early in the twelfth century we have documentary evidence of the existence of schools at Abernethy, Perth, and Stirling; while in the two following centuries similar records are quite frequent. It is known, for example, that Robert the Bruce early in the fourteenth century (1329) gave twenty shillings to "David of Montrose in aid of the schools." Again, in the reign of James IV the Scottish Parliament (1494) enacted "that all barrones and freeholders that ar of substance put their eldest sonnes and aires to the Schools fra thay be auct or nine yeires of age, and till remaine at the Grammar-Schules quhill thay be competentlie foundit and have perfite Latine." This oft-quoted statute is taken as evidence that "toward the end of the fifteenth century schools were planted in every considerable town in Scotland." But there is nothing to show that they were important. On the contrary, it was "to prevent the inconvenience of sending abroad the Scottish youth who desired a liberal education and could not obtain it in the schools" that the University of St. Andrews was founded in 1411, to the great joy of the nation; and its vitality as a center of education—for with it were connected during the next two centuries almost all the most eminent Scotsmen either as teachers or as pupils—is abundant proof of the important function it then sustained in the sphere of higher education.

The early schools, invariably associated with the church, were under its control and management. We read that the Grammar School of Glasgow which existed at the beginning of

the fourteenth century was under the superintendence of the chancellor of the cathedral of that city. On the other hand, the burgh authorities, whose control at a later date was so characteristic a feature, had little, if anything to do with the schools at this time. Consequently, at first, the master was a churchman, but long before the Reformation laymen began to occupy this position.

As may be supposed, the chief, if not the only, subject of instruction was Latin. Greek was not introduced into Scotland until 1534, when John Erskine of Dun on returning from his travels brought with him a Frenchman skilled in this language, whom he settled in Montrose. Here Andrew Melville, instead of going direct to the university, as was usual for young men of his age and progress, first put himself under the care of this learned Frenchman, and, passing thence to St. Andrews in 1559, he made use of the original text of Aristotle's writings in his studies—"a circumstance which excited astonishment in the university," as the professors had no knowledge of Greek. With regard to the instruction given in the schools we have one or two interesting accounts preserved. From the historical records of the Grammar School at Aberdeen we find that in 1553 the boys were supposed to have a fair acquaintance with the art of counting, and that they were permitted to speak only in Latin, Greek, Hebrew, French, and Gaelic, the vernacular being strictly prohibited; again, from the diary of James Melville, who attended schools at Logie and Montrose, we extract the following:

> We learned thar the Rudiments of the Latin Grammair, with the Vocables in Latin and frenche, also dyvers speitches in frenche, with the reiding and right pronunciation of that toung. We proceidit fordar to the Etymologie of Lilius and his Syntax, as also a lytle of the Syntax of Linacer, therewith was joyned Hunters Nomenclatura, the minora Colloquia of Erasmus and sum of the Eclogs of Virgill and Epist of Horace, also Cicero his epistles ad Terentiam. . . . . Sa I was put to the Scholl of Montrose. The maister of the scholl a learned honest kynd man, was verie skilfull and diligent. The first yeir he causit us go throu the Rudiments againe, thereafter enter and pass throu the first part of Grammar of Sebastian therewith we hard phormione Terentii, and war exercised in composition. Efter that entered to

the second part and hard thereat the Georgics of Virgill and dyvers uther things.

After the Reformation the grammar schools, or "burgh schools" as they were variously called, began to make great progress. In the *First Book of Discipline* (1561) Knox conceived a high ideal of education, which was not without its influence on subsequent developments.

Beginning with elementary schools, which should be found in every parish, he arranged for secondary schools in every town and cathedral city; and these in turn were to lead up to the universities, which were to be so equipped as to prepare the students for the learned professions and the highest offices in the state. After the rudiments of education were taught, the pupil passed on to the study of grammar and the Latin tongue, and in the higher-class schools or colleges to logic, rhetoric, Latin, and Greek. These higher-grade schools, as they might be called, prepared the pupil for the university, where his education would be completed. The wealthier parents were to pay the expenses of the education of their sons, and funds in the shape of bursaries and scholarships were to provide for the education of poorer children. No parent could dispose of his children as he liked. Education was to be compulsory. "All must be compelled to bring up their children in learning and virtue." The schools were to be inspected every quarter by competent examiners, and the sharper boys were to be selected and made to continue their education, so that "the commonwealth may have some comfort of them." Three of our four universities, St. Andrews, Glasgow, and Aberdeen, were then in existence, but their resources were limited. Provision, however, was to be made for their full equipment, and a detailed scheme of study for each college and faculty was drawn up. We have traveled a long way in many things from the days of Knox, but the scheme of education which he conceived for the nation has not yet been fully carried out. The resources which he thought would be at his disposal were denied him, and for that reason the plan broke down; but the very fact of the conception was in itself an inspiration.

The failure of the scheme, as a matter of fact, was due to resistance of the barons, who had appropriated the patrimony of the church to their own use, and it was this patrimony with which Knox had intended to further his scheme. Had his ideas been carried into effect, it has been said, and with some truth, that Scotland would have had a more complete system of education than any country in the world. To what extent Knox's ideal has been realized will appear as our subject develops.

Meanwhile we have already observed that, in most cases, the early schools originated with the church. The later ones, however, were mainly due to voluntary action on the part of the people. In a few cases it is true that they originated in royal foundations and private endowments, but in no case were they due to statutory enactments. The control and management, at first the monopoly of the church, gradually began to pass out of its hands. From the Reformation downward the church became "less and less influential—at least in the principal burghs—in the management and superintendence of the schools, and the burghs were more and more taking the control of them into their own hands." The reason for this is not far to seek, for, although the burgh authorities were under no legal obligation to erect the school buildings and keep them in repair, yet we find that they undertook this duty; and we also find many instances where the master was paid his salary out of the "common good"—i. e., out of the corporate property of the burgh. The patronage, therefore, gradually became vested in the town councils. But the church continued to lay claim to a superintendence over them, and the

> teachers were liable to the trial, judgment, and censure of the church established for the time, as to their sufficiency, qualifications, and deportment in their office. It is difficult, if not impossible, to draw the line exactly, and to settle where the authority of the town council ceased or that of the church began, or how far they were concurrent with one another. But that the church had by law a superintendence over the schools in burghs does not now at least admit of controversy.

This authority was partly inherited, as we have already shown, and partly guaranteed by successive acts of Parliament. It continued until as late as 1861, when, by the Burgh and Parochial Schools Act of that year, burgh schools were relieved of the superintendence of the church, and the long connection between the church and the burgh schools was finally severed.

In regulating the public schools, the town council

> laid down the minutest laws in regard to the discipline, the studies, the fees, the holidays, the time-table for weekdays and Sundays, the relation of the masters to each other, and, in a word, everything internal and external that

could possibly fall under their cognizance. The regulations in the main were characterized by shrewdness and sagacity, but some of them must have been very irksome to both scholars and teachers. They involved also an amount of work and personal superintendence that must have harassed and exhausted the body and mind of the most laborious pedagogue.

The subjects of instruction, at first almost entirely classical, remained so in many schools until the end of the eighteenth century. Indeed, the Grammar Schools of Glasgow and Montrose were exclusively classical well on into the nineteenth century. In the Stirling Grammar School Latin and Greek alone were taught until 1853. But it appears that a distinction in respect of curricula may be drawn between the schools in large burghs and those in small. The latter appear to have taught such branches of education as English, writing, and arithmetic from quite an early date. On the other hand, the Grammar School of Aberdeen, already referred to, seems to have been exceptional in the extent of its curriculum. About the middle of the eighteenth century, however,

there arose a cry for a more liberal and more practical course of education than that supplied by the old burgh schools, where the neglect or the omission of the commercial branches was felt to be a great evil—an evil which the burgesses and others interested in education endeavored to remove by introducing science classes into the schools.

But this was not sufficient, and to supply what was felt to be a want there came into existence another class of schools called "academies." At first, in some of these newer schools, science alone was taught,

but in a short time they lost their original characteristics; became in fact grammar schools, with this difference, that they had a more practical course of studies, more commodious buildings, better staff of teachers, better organization, and generally a new body of patrons. Though at first the academies were intended merely to supplement the grammar schools, in a short time they superseded or absorbed them; and in a few instances, instead of amalgamating with them, became their rivals. The oldest academy in Scotland is that of Perth, which was projected in 1760.

Gradually the curricula of the schools became enlarged. About 1850 the subjects of instruction, in general, included Latin, Greek, English, French, mathematics, arithmetic, writing, and,

in some cases, German and bookkeeping. It should be remarked, however, that a curriculum, as we now understand the term, was then practically unknown; pupils simply made a selection of one or more subjects according to their individual inclinations.

With respect to the staff, the chief master or rector as a rule continued to teach classics, his emoluments depending largely upon the fees. But classics were beginning to decline, and the rector's salary correspondingly fell; indeed, it was not uncommon at this time to find the English master with an income much greater than the rector's. The majority of the teachers had some measure of preparation for their work from attendance either at the university or at the normal school, but comparatively few had attained to a degree. As for the pupils, it is estimated that in 1868 about one-half of those attending burgh or grammar schools were under twelve years of age. That their work was pretty arduous may be judged from the fact that they were computed to work about twice as many hours in each year as the boys in the three principal English schools, Eton, Harrow, and Rugby.

PARISH SCHOOLS (1616–1872)

As distinct from those already described, the parish schools are due to legal enactments. As Sir Henry Craik says: "They represented a national and statutory system which had existed for centuries before such a thing had been thought of in England." We have already mentioned the scheme of John Knox and that unfortunately it never became law. The result was that very little was done in the direction of extending education until 1616, when an "act of council was passed empowering the bishops, in conjunction with the heritors and most part of the parishioners, to plant a school in every parish." This was ratified by an act of 1633, giving "power to the bishops to assess the possessor of every 'plow or husband land' according to its worth for the maintenance and establishing of such schools." During the civil war in 1646 it was ordained that a school should be founded in every parish by advice of the presbyteries. Although this act was rescinded at the Restoration, it was practi-

cally re-enacted in 1696, when it was decreed "that there be a school settled and established and a schoolmaster appointed in every parish not already provided, by advice of the heritors and the minister of the parish." By this act parish schools were firmly established throughout the country, and it was this type of school

> that brought together all classes, and accustomed the children of the laird to receive their earliest instruction on the same benches with the tenant's son. It was not confined to the bare elements of education, for poverty did not prevent the teacher from being often a man of culture and of scholarship, and finding his solace and ambition in training the aspirant to the university and professional life.

The function of these parochial schools in the Scottish national system of education should be clearly understood. Many parishes and districts were without secondary or higher schools, and the only manner in which a deserving pupil in such localities could make his way to the university was by means of the parish school. Consequently, if the ancient theory of Scottish national education, in regard to the connection between the parochial school and the university, were to be preserved, it was essential that the parochial schoolmaster should be qualified to teach what were known as university subjects. That he was well qualified in a large number of cases is unquestioned, for we know that in 1870 upward of one-half of the students in the universities came directly from the parish or other elementary schools. The Commissioners on Burgh Schools in their report (1868) made this very clear.

> The connection between the parochial and burgh schools and the university is therefore an essential element in our scheme of national education. The only way in which this essential element can be preserved is by insisting that the teachers in every burgh or secondary school, and many of the parochial schools, should be capable of instructing their pupils, not only in the subjects common to all primary schools, but in the elements of Latin, mathematics and Greek. To be satisfied with any standard of competency inferior to this would be to lower the character of education which has hitherto prevailed in this country; to deprive meritorious poverty of the means of gratifying a legitimate ambition; and to destroy the link which has hitherto united our schools with our universities, and which, according to universal consent, has proved of the utmost value to the people of this

country. . . . . It has been shown that there are districts in Scotland where there is no burgh school, and where the parochial teacher must discharge the duties of a burgh schoolmaster. In such cases we think that special grants should be made by the Treasury, and encouragement given to the higher branches.

It is evident, therefore, that parish schools before the passing of the Education Act (1872) fulfilled a by no means unimportant function in the dissemination of higher education, and it is necessary to have some knowledge of this function in order to understand rightly subsequent legislation.

At the time of the passing of the Education Act, therefore, the schools in Scotland which might be said to be supplying, in a greater or lesser degree, secondary education, can be grouped into four classes: (1) burgh schools; (2) academies or institutions, both in burghs and out of burghs; (3) private schools; and (4) parochial schools. The leading characteristic of the burgh school was its control and management by the burgh, and as examples of such we may cite the High Schools of Edinburgh and Glasgow. The second group, commonly founded by subscription, was managed by directors selected from the subscribers, and the Edinburgh Academy is a typical example of this group; occasionally, however, the academies were amalgamated with the burgh schools, as was the case with Montrose Academy. The private schools were of various kinds, day- or boarding-schools, or a mixture of both; Merchiston is a good example of a boarding-school. The parochial schools, in the main elementary, were managed by the heritors and the parish minister.

THE EDUCATION ACT (SCOTLAND), 1872

The Education Act (1872) introduced school boards into every parish and every royal or parliamentary burgh in Scotland, and created the Scotch Education Department—i. e., the Lords of the Committee of the Privy Council on Education in Scotland. All parish and burgh schools, whether called academies, high schools, or grammar schools, were vested in the school board of the parish or burgh in which they existed. Accordingly, the school board superseded the heritor and minister, and the

town council and magistrates, in whom the school management was previously vested.

Burgh schools existing at the passing of the act, in which the education given did not consist chiefly of elementary instruction, but of instruction in Latin, Greek, modern languages, mathematics, natural science, and generally in the higher branches of knowledge, were deemed to be "higher-class public schools," and eleven such schools were scheduled. Similarly a parish school which could not reasonably be considered chiefly an elementary school might, on the resolution of the school board, and subject to the approval of the Scotch Education Department, come under the same category.

Furthermore, it was provided that *any* school managed by a school board might be deemed a higher-class public school, if so resolved by the school board and approved by the Scotch Education Department. All schools, other than higher-class public schools, inasmuch as they were eligible for and received parliamentary grant, were named "state-aided schools."

HIGHER-CLASS PUBLIC SCHOOLS (1872–92)

By the act the funds and revenues of higher-class public schools might consist of (1) contributions payable from the common good of the respective burghs; (2) endowments, general and particular; and (3) fees paid by scholars. With regard to contributions from the "common good"—i. e., the common property of the burgh—the respective town councils were required to pay over to the school board whatever sums they had been accustomed to contribute in the past. The amounts of these sums varied from £50 to £900 and, as may be supposed, bear no consistent ratio to the incomes of the schools at the present day. As extreme instances we may compare Edinburgh High School, which derives about one-ninth of its total income from the common good, with Paisley Grammar School which obtains less than one-hundredth from a similar source. The endowments, as a rule, were only small.

Previous to the passing of the act the fees were fixed by the managers and paid directly to the masters. It was now

enacted, however, that the teachers had the right, subject to the approval of the school board, to fix the fees, and that they were to be paid directly to the treasurer of the school board, who had to keep them separate from the other school funds in his charge; moreover, the full amount had to be divided and distributed among the teachers in the manner determined by the school board. In this way the salaries of the teachers were conserved and provided for.

The only expenses which the school board was empowered to take out of the school fund—or, in other words, the only expenses which were liable to fall on the local rates—were (1) the sum required for interest on and repayment of loans raised for providing or enlarging a school, and (2) the cost of providing an examiner to conduct an annual examination of the school. No provision was made by the Act of 1872 either to maintain the building or to provide efficient instruction and equipment. By the terms of the act the higher branches of knowledge had to be annually examined by examiners appointed and employed for that purpose by the school board. This statutory examination, however, did not immediately supersede the popular examination of former years; for some time the two existed side by side. Ultimately the popular examination took the form of the annual exhibition of work and prize distribution of modern days. There were not wanting those who expressed the opinion that the examiner, in so far as he was appointed and remunerated by the school board, was not sufficiently independent. His report, often effusively complimentary, was not always taken seriously by the parents.

At the same time, although there may have been grounds for criticism, the examinations were productive of good. The examiners were usually university professors of standing, and, as they passed from school to school, their suggestions and criticisms were at least stimulating, and undoubtedly tended to promote a more homogeneous and unified effort in higher schools.

There was no further legislation regarding these schools until 1878, when the Education Act of that year introduced one or two important changes. In the first place, school boards

having the management of such schools were bound to maintain the school buildings out of the school fund, and were also empowered to pay from the same fund such other expenses as were necessary for the promotion of efficient education therein, provided in both cases that the consent of the Scotch Education Department was first obtained; furthermore, powers were given to the Scotch Education Department to make provision for examining a higher-class public school or a higher-class school (i. e., a secondary school under an authority other than a school board), whenever application for such was made by the respective managers. There was a distinction, however, between the two, though of small importance: in the case of the former the expenses connected with the examination were to be paid by the managers; in the case of the latter the expenses fell to be borne by the Department. In due course applications for examination were made, but, principally through lack of funds, the work was not undertaken until several years later.

In 1885 the Scotch Education Department was reorganized, the change involving the appointment of the secretary for Scotland as vice-president of the Scotch Education Department, and the reconstruction of the staff of that department on a separate basis. "This arrangement, while it preserved certain important relations between the administration of the education grants in England and Scotland, offered guarantees that separate and careful attention should be given to the special requirements of Scotland." This special attention to Scottish education very soon manifested itself. Meanwhile there had been passed, in 1882, the Educational Endowments Act, by which the obligation was laid upon the Scotch Education Department of periodically examining endowed schools, the cost of the examination to fall upon the endowment. Thus the inspection of higher-class schools promised to cover a much wider field than at first anticipated. After careful inquiry into the general aims and objects of these schools in each locality, and after consultation with the managers, the Department, in 1886, undertook the examination of higher-class schools of all kinds; in the case of endowed higher-class schools it was compulsory, but in other cases

optional. The results of this first "government" examination are naturally interesting. We find that twenty-two higher-class public schools, ten endowed schools, and six schools under voluntary management were examined. In the report on the examination it was stated that, although signs of failure were numerous, they were due rather to the conditions under which the schools worked than to deficiencies on the part of the teaching staff. But the subjects of study appear to have been almost precisely the same as pursued fifty years previously, and in many cases it was complained that antiquated methods of instruction were being pursued. There was no common standard and a "very wide divergence between the range and achievements of schools nominally of the same class." Considerable doubt and difference of opinion, too, as to the proper aims and organization of a secondary school, seem to have prevailed in the various schools.

This first official examination was partly written and partly oral, and, in the instructions to the examiners in the following year, it was stated that much importance was attached to the individual results in the written examination in the higher classes, and that a report as to their views regarding the expediency of issuing a certificate to individual scholars as a result of the final or "leaving" examination should be made, as well as a statement as to how far such an examination would be capable of application in the schools visited. It should be noted that annual written examinations were at that time conducted by the several universities in suitable centers throughout the country, and that, if a "leaving" certificate examination were to be instituted in connection with the inspection of higher-class schools, possible interference with existing systems might ensue. Accordingly, the Scotch Education Department proceeded with commendable caution. The managers of higher-class schools, the university authorities, and the various professional bodies in the country were first consulted; and various examining authorities, including the universities, having agreed to accept the examination as a substitute for their own, the system

of a "leaving-certificate examination" was initiated in 1888. In order to secure a uniform and high standard, the professors of the Scotch universities were invited to take a share in the supervision of the work. The hope, too, was expressed that the examination, although separate from the inspection, would to a large extent, dispense with the minute *annual* inspection of each of the higher schools, in so far as the written part of this inspection was concerned.

"To avoid imposing regulations which might fetter the freedom and individuality of schools, the examination was not based upon any prescribed books, but was made a test of the general attainments of each pupil in each subject." It was anticipated that in course of time the "leaving-certificate examinations" would tend "to concentrate the work in the secondary schools, where much inconvenience had been caused by the necessity of preparing pupils for various examinations, of much the same standard, but based in each case upon different prescribed books." Examinations were held in six subjects: mathematics (including arithmetic), English (with questions on modern history and geography), Latin, Greek, French, and German, and, as each higher school was a center, the examinations were held simultaneously throughout the country. There were three grades in each subject: honors, first grade (higher), and second grade (lower); and twenty-nine schools, sending in a total of 972 candidates were examined. The number of certificates issued was 2,334 a certificate being issued for a pass in each subject.

It is important to notice that this leaving-certificate examination was initiated in connection with higher-class schools, and, in its inception, had no reference to state-aided schools. In this connection we find in the report of 1888:

> It has been represented to us that the examination should not be confined to the pupils of secondary schools, but should be open to all. It must be noticed, however, that the inspection with which the examination is connected is confined to secondary or higher class schools, by act of Parliament, and we have consequently no power to extend it as proposed. Nor are we satisfied that such extension would be in itself expedient. At present no

one is excluded by the examination from any privilege previously enjoyed under existing systems of examination; while there are obvious advantages in the issue of one certificate which will not merely attest the amount of information acquired by the candidates, but also the fact that they have passed through a course of education in a recognized secondary school. We look to this as a strong and deserved encouragement to such schools, of the decadence of which in recent years many complaints have reached us.

[*To be continued*]

RECENT EDUCATIONAL BIBLIOGRAPHY

J. I. WYER
The New York State Library

This is the tenth similar annual summary, the nine earlier lists having appeared in each October number of the *School Review* since 1898.

The semi-centennial indexes and catalogues of the National Educational Association, the catalogue of the Philadelphia Board of Education Library, the continuations of the useful annual bibliographies of education in the *Educational Review* and of child-study in the *Pedagogical Seminary* have furnished several important bibliographic tools during the past year.

These and other minor items are fully described below:

ABERDEEN UNIVERSITY

"Collections toward a Bibliography of the Universities of Aberdeen." By P. J. ANDERSON. (In his *Studies in the History and Development of the University of Aberdeen*, 1906. Pp. 385–525.)

AGRICULTURAL EDUCATION

(See also "School Gardens" below)

The Teaching of Agriculture in the Public Schools. By A. CASWELL ELLIS. Austin, 1906. Pp. 56, 8vo. (University of Texas Bulletin, No. 85.)

Pages 52–56 contain a carefully selected and well-annotated list of books designed to furnish material and suggestions for teachers.

BOYS AND BOY LIFE

Classified Bibliography of Boy Life and Organized Work with Boys. By J. T. BOWNE. New York, 1906. Pp. 39, 8vo.

Reprinted from *Association Boys* for August, 1906. Gives about 450 titles, most of them magazine articles, designed to be helpful and suggestive to the worker among boys. The first section, theoretical and treating of child psychology, nature, and development, is followed by one on methods for organized work with boys through the Y. M. C. A. and clubs. Then several of the forms of such organized work are given in detail, such as Juvenile Courts, Vacation Schools, Playgrounds, Camps, etc. The work is careful, well arranged, but not annotated.

CHILD-STUDY

(*See also under "Boys" and under "Play" in this article*)

"Bibliography of Child-Study for the Year 1905." By LOUIS N. WILSON. (In *Pedagogical Seminary*, September, 1906. Vol. XIII, pp. 374–97.)

This ninth similar annual summary contains 305 titles. The *omnium gatherum* character of the list is shown by the inclusion of Barrie, *Tommy and Grizel*; Gounod (*sic*), *The Native Language and Native Education*; Houghton, *Telling Bible Stories.*

A Few Titles in Child-Study. By LOUIS N. WILSON. Pp. 8, 8vo. April, 1907. (In Clark University Library Publications, Vol. II, No. 3.)

Thirty-seven titles of books in English selected to serve as an introduction to child-study for non-specialists and those interested in knowing of it but unfamiliar with the subject or the work already accomplished. An expansion of a similar article in N. E. A. *Proceedings*, 1905, pp. 751–53.

COLLEGE ENTRANCE REQUIREMENTS

Selected list of articles dealing with the examination system and the inspection and certificate system of admission to college. (In *Associated Harvard Clubs; Second Report of Committee on the Relation of Harvard University to Schools for Secondary Education.* Chicago, May, 1906. Appendix 2, pp. 16.)

Lists and reviews at length, of all important articles on both sides, to the number of thirty-one.

CONTINUATION SCHOOLS

The Continuation School in the United States. By ARTHUR J. JONES. Washington, 1907. Pp. 157, 8vo. (U. S. Bureau of Education Bulletin, 1907.)

Pages 145–49 contain about one hundred titles of books, reports and articles giving historical, descriptive, and statistical matter about continuation schools in England, Germany, and the United States.

EDUCATION

"Bibliography of Education for 1906." By J. I. WYER, JR., and MARY G. BROWN. (In *Educational Review*, June, 1907, Vol. XXXIV, pp. 47–93.)

This is the eighth annual issue of this analytic, selected, annotated list of the English literature of education which has appeared in this journal. According to custom the following seventeen titles are indicated as the most important educational books of the year. The books are roughly grouped by subjects:

1. Horne, *Psychological Principles of Education.*
2. O'Shea, *Dynamic Factors in Education.*
3. Hamilton, *The Recitation.*
4. McMurry, *Course of Study in the Eight Grades.*
5. Thorndike, *Principles of Teaching.*
6. Sargent, *Physical Education.*
7. Rouillion, *Economics of Manual Training.*

8. Bates, *Talks on Teaching English.*
9. Colby, *Literature and Life in School.*
10. Cook, *The Higher Study of English.*
11. Lamont, *English Composition.*

12. Gilbert, *The School and Its Life.*
13. Kern, *Among Country Schools.*

14. Gilman, *Launching of a University.*
15. Hyde, *The College Man and the College Woman.*
16. Paulsen, *German Universities.*
17. Thwing, *Higher Education in America.*

"Books of the Year for the Teacher's Library." (In *School Review*, June, 1906, Vol. XIV, pp. 449–56.)

A classified list, for high-school teachers, of books on the following topics: general education, philosophy, and psychology; history; civics and sociology; English; Latin; French and German; sciences. The selection is rather erratic and the title a misnomer, as many of the books are several years old. Text-books are included. The notes are short and good, but all too few.

Books on Education. Haverhill, Mass., Public Library special list No. 1, April, 1907. Pp. 32, 8vo.

A classified list of about one thousand books (no magazine articles) arranged under thirty-six convenient subject-headings, with a rough alphabetic subject-index but no index to authors. It is of course subject to the limitations of all lists that represent merely the books owned by a single library; but as the Haverhill library took pains to buy largely and with care on this topic before printing the list, the list is a very representative catalogue. It is to be regretted that expense made it impossible to add critical and descriptive notes.

Catalogue de la bibliothèque centrale du ministère de l'intérieur et de l'instruction publique de Belgique. Bruxelles, 1903–06. 3 vols.

The library is of course a general collection, but Vol. II, a stout octavo of 1,165 pages, contains the section listing the titles on "Enseignement" 6,742 in number. The material is closely classified, a geographical sub-arrangement being a prominent feature, and the decimal class number (taken from the Brussels extension) is given with each title. A very full author-, title-, and subject-index fills 200 pages.

Catalogue of Books on Education. Cardiff (England) Public Libraries, 1906. Pp. 61, 12mo.

About seven hundred and fifty titles classified by subjects with author-index. As an instance of how such lists as this and the Haverhill catalogue noted just above supplement each other, not one of the forty-two titles on education of women or of the thirty-four titles on physical education that are noted in the two lists is common to both; and yet they are from typical public libraries of more than average size.

Catalog of the Pedagogical Library of the Board of Public Education, Philadelphia. Compiled by LILLIAN IONE MACDOWELL. Philadelphia, 1907. Pp. 525, 4to.

In 1887 Dr. James MacAlister issued the first catalogue of this library (then but four years old) listing about thirteen hundred titles, supplementing it in 1890 with a slender list of about three hundred additional titles. By now this library has grown to over ten thousand volumes and this excellent analytic, dictionary catalogue furnishes a key to its contents. Whether it was worth while to go to the great expense of printing a 500-page catalogue which is out of date, in a certain sense, before it is in type, depends upon the nature and value of the collection which is catalogued. The Philadelphia Board of Education Library cannot be called a research library for serious students of educational topics. The German literature of pedagogical subjects is almost wholly lacking, and the French is nearly as slight; important topics, e. g., religious education, education of women, negro education, college-entrance requirements, are scarcely represented in the catalogue; the educational periodicals are almost entirely American and very incomplete even there, while apparently the larger part of the library consists of general literature not specifically pedagogical. All this means that we have a well-made catalogue of a well-chosen general library in the English language, largely pedagogical in character and no doubt most admirably adapted to its own constituency, the teachers and workers in the Philadelphia schools.

Education et instruction. Berne, 1906. (Bibliographie nationale suisse, 5.)

Index by Authors, Titles, and Subjects to the Publications of the National Educational Association for Its First Fifty Years, 1857 to 1906. By MARTHA F. NELSON. Winona, 1907. Pp. 211, 8vo.

Includes references not only to the annual volumes of *Proceedings* but to five important special reports and to separate issues of the *Proceedings* of the Department of Superintendence. The indexing seems well done (many items being entered more than once), the choice of subject-headings usually good, the method of reference convenient and simple, and the typography pleasing. As the index is what is technically called a dictionary catalogue, there should have been more cross-references. It is an invaluable tool for libraries and all serious workers and writers on educational topics, especially those who have ready access to the volumes indexed. It entirely supersedes the similar index of 1897.

In its fiftieth anniversary volume just issued, the N. E. A. has arranged the titles of all papers and discussions, 1857–1906, chronologically under each department and in the same volume on pp. 659–730 the topics of all papers printed in the *Proceedings* are classified chronologically under fifty-nine headings. A list of these headings with additional cross-references is prefixed. These two lists scarcely seem to add enough to the value of the Index to repay cost of preparation, though the Topical Bibliography will often be better for quick and comprehensive reference than the Index itself.

FRANCE—EDUCATION

The Public Primary-School System of France, with Special Reference to the Training of Teachers. By F. E. FARRINGTON. New York, 1906. Pp. 303, 12mo. (Teachers College, Contributions to Education, No. 7.) Bibliography, pp. 289–95.

GEOGRAPHY

"The Pedagogy of Geography." By DAVID GIBBS. (In *Pedagogical Seminary*, March, 1907, Vol. XIV, pp. 39–100.)

A useful bibliography of 100 titles is appended, which includes literature on the history of methods of teaching geography and on methodology *per se*.

GERMANY—EDUCATION

German Universities. By FRIEDRICH PAULSEN. New York, 1906. Pp. 451, 8vo.

Pages 437–41 contain a short list of German works consulted by the author.

HUMANE EDUCATION

Bulletin on Humane Education. Sacramento, Cal., 1906. Pp. 30, 8vo.

A bulletin issued by the San Diego State Normal School, giving a syllabus for a study in the grades of domestic and wild animals and trees. Many references are given to poems, pamphlets, books, and miscellaneous material, most of it to be had at little or no cost, which should be helpful to teachers.

KINDERGARTEN

"A List of Books for Teachers and Students of the Kindergarten." (In *Boston Public Library Monthly Bulletin*, December, 1906, Vol. XI, pp. 406–12.)

About three hundred titles, selected from those recommended by Boston Training School teachers to students, classified under the captions, History of Education; Psychology and Child-Study; Nature-Study; Kindergarten Theory and Practice; Stories and Poems; Music, Songs, and Games. There are no notes, and the list is not of great importance.

MANUAL TRAINING

"Bibliography of Manual Training." (In O. J. KERN, *Among Country Schools*, 1906, pp. 339–41.)

MASSACHUSETTS—EDUCATION

The Rise of Local School Supervision in Massachusetts (the school committee, 1635–1827). By HENRY SUZZALLO. New York, 1906. Pp. 155, 12mo. (Teachers College, Contributions to Education, Vol. I, No. 3.) Bibliography of works consulted, pp. 150–54.

MATHEMATICS

"A Bibliography of Elementary Mathematics." By E. A. LYMAN. (In *Western Journal of Education*, March, 1907, Vol. I, pp. 231–33.)

An annotated bibliography of the history and teaching of elementary mathematics; twenty-nine titles.

"Books Old and New in Mathematics." By H. E. SLAUGHT. (In *School Review*, November, 1906, Vol. XIV, pp. 679–85.)

An excellently compiled and annotated list of books in English which might make up a fair working library for the teacher of secondary mathematics. The commoner high-school texts have been omitted. Algebra, 17 titles; geometry, 19 titles; trigonometry, 9 titles; analytic geometry, 6 titles; calculus, 9 titles; historical and pedagogical, 12 titles.

The Educational Significance of Sixteenth-Century Arithmetic from the Point of View of the Present Time. By L. L. JACKSON. Pp. 232, 8vo. New York, 1906. (Teachers College, Contributions to Education, No. 8.)

Contains a considerable list of books used by author.

The Teaching of Mathematics in the Elementary and the Secondary School. By J. W. A. YOUNG. New York, 1907. Pp. 351, 12mo.

Nearly every chapter is preceded by an extensive list of references to books, magazine articles, and reports in English, German, and French. Certainly the most important assembling of such titles now in print. Chap. ix is entirely devoted to the mathematical library.

PENNSYLVANIA—EDUCATION

The Charity School Movement in Colonial Pennsylvania. Thesis presented to the University of Pennsylvania for the degree of Doctor of Philosophy. By S. E. WEBER. Philadelphia, 1906. Pp. 74, 8vo.

A bibliography of 70 titles is appended.

PESTALOZZI

History of the Pestalozzian Movement in the United States; with bibliography. By W. S. MONROE. Syracuse, 1907. Pp. 244, 8vo.

The bibliography fills 19 pages.

PLAY AND PLAYGROUNDS

Playgrounds. By JOSEPH LEE. Philadelphia, 1906. Pp. 12, 8vo.

This little pamphlet is published by the Department of Public Recreation of the American Civic Association as *Department Leaflet No. 7*, and probably may be had without cost at the association offices, North American Building, Philadelphia.

Seven pages are devoted to bibliography, classified under the following heads: The Child; Play; Playgrounds; Vacation Schools; Gymnasiums; Bath; Summer Camps; Sandgardens and Summer Playgrounds.

The references are to books, magazine articles, and municipal reports from nineteen different cities.

Additional references on most of the above topics will be found in Mr. Bowne's *Bibliography of Boys*, noted above.

RELIGIOUS EDUCATION

"Moral Training in the School." By G. E. MYERS. (In *Pedagogical Seminary*, December, 1906, Vol. III, pp. 409–59.)

Among the sixty-two titles in the bibliography are eighteen French textbooks used for moral instruction in the schools of France.

A bibliography for Sunday-school teachers. By W. W. SMITH. (In *Religious Education*, December, 1906, Vol. I, pp. 187–92.)

A short unannotated list, topheavy with titles on child-psychology.

SCHOOL GARDENS

"Bibliography of school gardens." (In O. J. KERN, *Among Country Schools*, 1906. Pp. 302–08.)

SCHOOL HYGIENE

"The Hygiene of the Teeth." By WM. H. BURNHAM. (In *Pedagogical Seminary*, September, 1906, Vol. XIII, pp. 293–306.)

The paper is concerned only with the teeth of school children and the appended bibliography of eighteen titles covers similar studies and actual investigations in Germany, Russia, and other countries.

"Jahresberichte für 1904–05 über die schul-hygienische Literatur Deutschlands." Von R. BLASIUS und A. WERNICKE. (In *Internationales Archiv für Schulhygiene*, Vol. II, appendix, pp. 13–95); Vol. III, appendix, pp. 121–85.

The literature is classified under fourteen convenient headings. Nearly every item is carefully described. The list would be more convenient if books and periodical articles were united in one arrangement. The list for 1904 was supplemented by reports on the literature of school hygiene from Denmark, Belgium, Great Britain, and America, but this feature does not appear in 1905. It is planned to continue annually the record of German literature.

SPELLING

"The Hygiene and Psychology of Spelling." By WM. H. BURNHAM. (In *Pedagogical Seminary*, December, 1906, Vol. XIII, pp. 474–501.)

Forty-four titles, chiefly German.

"Simplified Spelling." (In *Salem (Mass.) Public Library Bulletin*, October, 1906. Pp. 163, 164.)

A convenient list of many of the most recent and accessible articles.

TEACHER'S SALARIES

"Bibliography of Teachers' Salaries and Pensions." By C. A. NELSON. (In *Educational Review*, January, 1907, Vol. XXXIII, pp. 24–35.)

THE THIRTEENTH MICHIGAN CLASSICAL CONFERENCE

FRANCIS W. KELSEY

The Thirteenth Michigan Classical Conference was held in Sarah Caswell Angell Hall of the University of Michigan on March 27 and 28, in connection with the regular meeting of the Michigan Schoolmasters' Club. There was a good attendance at all the sessions. Following the plan adopted last year, instead of printing "Proceedings" with the customary abstracts, we present here the programme with references to the place of publication of the papers that have appeared or will soon appear in print.

PROGRAMME

Wednesday Morning, March 27

Presiding Officer: Professor Joseph H. Drake, University of Michigan.

1. "Virgil's Use of Historical Material," Professor J. O. Kinnaman, Benton Harbor College.
2. "Caesar in Pre-Shakespearean English Literature," Dr. Loura B. Woodruff, University of Michigan.
   To be published.
3. "A Commentary on Virgil's Aeneid IV. 246 ff." (illustrated), Professor Arthur Fairbanks, University of Michigan.
   To be published in the *Classical Journal*, Volume III.
4. "Idiom and Race," Professor Frank B. Meyer, Hillsdale College.
   Published in the *Journal of the Michigan Schoolmasters' Club*, 1907, pp. 126–36 (copies of this publication may be obtained from the Secretary of the club, Mr. Louis P. Jocelyn, South Division St., Ann Arbor, Michigan).
5. "Roman Cohort Castella" (illustrated), Professor George H. Allen, University of Cincinnati.
   Published in the *University of Cincinnati Studies*, Vol. III, No. 2.
6. "Recent Progress in Latin Syntax," Professor Clarence Linton Meader, University of Michigan.
   To be published in the *School Review*.

Wednesday Afternoon

Presiding Officer: Hon. Levi L. Barbour, Regent of the University of Michigan.

7. "The Attitude of Luther Toward Language Study and the Teaching of Latin," Dr. W. W. Florer, University of Michigan.

8. "Women in the Ancient City," Miss Edith Emma Atkins, Lansing High School.

Published in *Moderator Topics*, Vol. XXVII (1907), Nos. 722–25.

SYMPOSIUM on "The Value of Humanistic, and Particularly Classical Studies, as a Preparation for the Study of the Professions: Law"

9. Address: "The Value to the Lawyer of Training in the Classics," Merritt Starr, Esquire (Peck, Miller and Starr), of the Chicago Bar.
10. Address: "The Study of Greek and Latin as a Preparation for the Study of Law," Lynden Evans, Esq, of the Chicago Bar.
11. Discussion, from the Point of View of the Law School, Harry B. Hutchins, Dean of the Department of Law, University of Michigan.
12. Discussion, from the Point of View of Legal Practice, Hon. Harlow P. Davock, of the Detroit Bar; Hinton E. Spalding, Esquire (Walker and Spalding), of the Detroit Bar.
13. Concluding Remarks, by the chairman.

The Symposium was printed in full in the *School Review* for June. Through the kind assistance of the Board of Regents of the University of Michigan and the courtesy of the publishers of the *School Review*, it has been possible to secure a number of reprints for distribution. Those desiring a copy may address (inclosing a two-cent stamp for postage) Mr. Louis P. Jocelyn, South Division St., Ann Arbor, Mich.

A similar symposium, on the value of humanistic studies as a preparation for the study of theology, will form a part of the programme of the next Classical Conference, in March, 1908.

The papers and addresses upon "The Value of Humanistic, Particularly Classical, Studies as a Preparation for the Study of Medicine and of Engineering," at the Conference of 1906, were published in the *School Review*, Vol. XIV (1906), pp. 389–414.

WEDNESDAY EVENING

Presiding Officer: Professor Martin L. D'Ooge, University of Michigan.

14. Lecture before the Classical Conference and the Philological Association of the University of Michigan: "The Art of Ancient Etruria" (illustrated), Professor Gordon J. Laing, University of Chicago.

THURSDAY AFTERNOON, MARCH 28

Presiding Officer: Principal John C. Hanna, Oak Park High School.

15. "The Classical Club of the Lewis Institute and Its Reproductions of Scenes of Greek and Roman Life (illustrated), Professor J. R. Nelson, Lewis Institute, Chicago.

To be published.

16. "Should Our High School Courses in Latin be Extended Downward into the Seventh and Eighth Grades? The Point of View of a Department of Latin," Professor Andrew F. West, Dean of the Graduate School, Princeton University.

An outline of Dean West's address was published in the *School Review* for March, pp. 219–21, and in the *Journal of the Michigan Schoolmasters' Club*, 1907, pp. 116, 117. Many requests for the full address were received, but Dean West found it impossible to command the time to prepare the manuscript for the printer.

17. "Should Our High School Courses Be Extended Downwards? The Point of View of a Department of Education," Professor Theodore De Laguna, University of Michigan.

Published in the *Journal of the Michigan Schoolmasters' Club*, 1907, pp. 118–23.

18. Discussion of the papers numbered 16 and 17: Superintendent J. Stanley Brown, Joliet, Illinois; Professor B. L. D'Ooge, State Normal College, Ypsilanti.

The paper of Superintendent Brown is published in the *Journal of the Michigan Schoolmasters' Club*, 1907, pp. 123–26.

19. "The Extended Latin Course and the Test of Experience, Principal Webster Cook, Saginaw High School.

20. General Discussion of the Extended Latin Course.

THURSDAY EVENING

Presiding Officer: F. W. Kelsey, University of Michigan.

21. Address (Joint Session of the Classical and Modern Language Conferences): "Is Modern Language Teaching a Failure?" Professor C. H. Grandgent, Harvard University.

Published in the *School Review* for September, pp. 513–534. A few reprints are available for distribution; requests should be addressed to Secretary Jocelyn.

EDITORIAL NOTES

Two Types of Educational Administration

The Chicago election of last spring, and the consequent changes in the Board of Education served to bring out two different ideals of political and educational policy. Leaving out of account those on each side who were simply playing the political or educational game for selfish or party or class interests, the sincere and public-spirited supporters of each side were influenced by one of two theories. The one party demanded administrative efficiency as the foremost aim; the other was more directly concerned with discovering and meeting social needs. It is true that the more intelligent advocates of administrative efficiency would say that this is only a means to the education of children, and that the more intelligent "social reformers" would regard efficiency as a necessary means of carrying out their programme of meeting needs; but the emphasis of the respective parties falls on a different point in the process, and is likely to work differently in practice.

Administrative Efficiency

The standpoint of administrative efficiency is likely to assume the end of education or politics as fixed, just as it is in business. The aim in business is not open to consideration; it continues the same. Only its methods change. Reform in methods implies economy of time and money, elimination of waste, quick adjustment to the market, harmonious work of all departments. These are usually secured by centralization of power, and thoroughgoing direction of details. Applied to education, this theory usually assumes the end of education to be to prepare children to succeed in life. It insists on the "essential," and is apt to look on everything not needed in making or selling goods as "fads." It is apt to believe, not only that progress usually starts "at the top," but that sufficient authority and efficiency at this point is all that is necessary to drive the whole educational machinery rapidly and harmoniously. The tendency undoubtedly is to view the whole process as a mechanism.

Social Reformers

The aim of the "social reformers" is determined largely by contact with the other end of the system—the children or their parents. They may not be sure as to what are the right methods, just because they are not content to take the end of education as satisfactorily fixed at present. They may discuss, and possibly flounder in their efforts to find out what needs to be done, but social or educational advance does not usually come until there is some dissatisfaction, some criticism of existing methods. Progress and harmony do not usually go together. From this point of view waste in children is worse than waste in money. Furthermore, the center of gravity of the system is likely to be differently located by the two theories. Administrative efficiency naurally places this center in

the appointing power. If that is intelligent and has a free hand, good teachers can be appointed, bad ones dismissed; what more is needed? The other view places the center in the teaching body. It feels the force of the fact—even if it reads like a truism—that the teaching must be done by the teachers. It sees that the great bulk of the teachers must begin as novices and be made good or bad teachers largely by the influence of the teaching body itself. It realizes that education, as was pointed out in the February issue by *The School Review*, is finally a work of personal relation, not of educational machinery, and therefore is democratic. Administrative efficiency is likely to adjust the size of the school-rooms to the income. Social reform is likely to adjust the size of the room to the children. The old Board of Education was charged by its critics with considering the interest of the teachers. There is no doubt that most of the Board, at least, were simply convinced that where there is disaffection, discouragement, and a sense of unfair discrimination on the part of teachers, the children are likely to suffer. Nor, so long as human nature remains what it is, will the difficulty be met by the easy solution of the administrative reformers, viz.: let the teachers teach and ask no questions; let them take what they can get and be quiet; least of all, let them ask whether other people are paying their taxes, or a fair rent for school property—such questions are the unpardonable sin in those who are only hired employees.

THE PLACE OF EACH

The development of school administration in this country, like that of university administration, has undoubtedly made a demand for executive efficiency. Reforms have come very largely from above. Any resistance to measures of genuine advance, any position that seems to squint toward low standards of professional breadth and progress will not be tolerated by the public. But the teaching must be done by the teachers. No reform or advance means anything permanent or will in the long run benefit the children unless the teachers themselves appreciate its value and undertake it. And teachers will not be enthusiastic unless they believe they are treated squarely. Mere "sitting on the lid" is not enough to secure loyalty. Further, while efficiency in adminstration, and in every part of it, is no doubt important, it is none the less certain that it is a means and not the end. The end is to meet the needs of the growing community, to give its children the best and largest life now, and prepare them for life and citizenship later. The persons who are in a situation to appreciate the needs—not of the successful, for these usually send their children to private schools—but of the common ranks, are as important members of the school board as those who have proved their ability to manage great enterprises successfully. A community which can combine both ideals in its school system is fortunate. The new school board of Chicago has men of known administrative ability. It remains to be seen whether they will consider their appointment a mandate to ignore all that is valuable in the other ideal, or whether they will use their ability to promote it.

BOOK REVIEWS

Efficient Democracy. By Wm. H. Allen, Ph.D. New York: Dodd, Mead & Co., 1907. Pp. xiv+346, and 14 illustrations. $1.50.

In sixteen very suggestive chapters Dr. Allen here gives us a study of the statistical method as a foundation for intelligent advance in the business of the school and various other social lines. The keynote is struck in the second sentence of the preface, where the stand is taken that, "To be efficient is more difficult than to be good." And a little later, "To test the goodness of a citizen, trustee, or public official requires more than human judgment. Efficiency can, and should be tested by those who benefit when it is present, and suffer when it is lacking."

The first chapter is a challenge. Here are the first words: "Good men will administer well. This is the Goodness Fallacy that hampers civic progress, and weakens church, charity, hospital, and school. Like many other fallacies it is attractive, because of its promise and its flattery. . . . . Convinced that Good Government, in whatever field, will never be possible so long as goodness is to be the sole, or even the chief, qualification of public officers, it is proposed to substitute an Efficiency Test for the Goodness Test."

This is the programme of the book. The Goodness Fallacy is exhibited in half a hundred ways. Outside of reform politics and so-called uplift work we are interested in goodness only as it has a bearing on efficiency. "We ask much more of a companion for an evening or for life. Our photographer must know how to take pictures; . . . . we do not forgive a blundering dentist because he is of irreproachable character." The modern Diogenes "looks for efficiency, and expects goodness to be thrown in. He imposes a merit test, and that test is based upon visible, countable results. . . . . In schools too, as a rule, goodness has given way to efficiency as the avowed test for teacher and janitor, but not for school trustee. Neither the last named, nor those who select him realize as yet that there is just as definite a measure of a trustee's fitness to direct, as of a teacher's fitness to teach. . . . . Goodness has not in the past prevented egregious waste in school management nor has it analyzed school experience so as to prevent the neglect of needy children, the ruthless waste of child life, and the continuance of errors for decade after decade. The school text-book trade has been promoted in country as well as city by methods that in deception, favoritism, shamelessness, vaunted altruism, and number contaminated, surpass the possibilities in any business not supervised by goodness."

This is the temper of the book. Straightforward, forcible, clear, and scintillating with wit, it must be understood; it is educative in the highest sense. We are blundering in the dark everywhere in our municipal activities, our schools, our charities, our treatment of crime, and all because we have not brought our wit to bear upon the accumulation of facts, which, by classification, and comparison, may be made to show us our shortcomings, and how they may be

corrected. The antipathy which some of us have for "statistics" is explained, and we are shown what may be done with the right facts, rightly classified and compared. In fact the chapter on "The Simple Ingredients of the Statistical Remedy" gives us so luminous an exposition of the purpose and method of statistics that any prejudice we may have against statistics must disappear.

The chapter on "School Efficiency" gives us a brilliant exposition of what we are losing in all our schools by the lack of a proper method of record, and use of the record as a means of correcting errors and directing our growth in right lines. "Any educational policy that must forever be supported by belief, not fact, is either too expensive a luxury for a democracy to indulge in or too insignificant to worry about. Any policy that the best theory justifies, facts will also justify, and figures describe, classify, count, compare, and summarize." An inspiring story is told of what has already been accomplished in New York City, for the school children and for the schools, by the Committee on Physical Welfare of School Children, a handful of earnest people, "who have desired to know certain countable, measurable facts." It is an object-lesson for all the country. For, "It is true of our American schools, that an adequate system of bookkeeping and records would disclose waste in construction of buildings, in supplies, in service, in children's time, in opportunity, vastly exceeding the expenditure necessary for bringing to light such waste."

Dr. Allen carries this keen specific analysis through the discussion of charitable work, the prevention of crime, religious work, and government, giving in many cases an exact form of inquiry and record, showing how the form of record may be made to give the maximum of information with the minimum of effort in entry. He then outlines a Municipal Bureau of Statistics, showing how such an institution, if endowed and independent, and properly manned with experts, could be a power of the greatest significance in organizing the municipal record in all the lines he has discussed, and in others; and how such record may be presented to all the people in such a way as to turn on a veritable search-light in all lines of municipal activity, so pointing out the weak places, giving a chance to eliminate wastes, correct errors, and finally to arrive at efficiency.

It is good to know that his appeal has borne fruit. That an endowment is already subscribed for such a bureau in New York City, and that Dr. Allen is chosen as its first secretary. We may look with confidence to this bureau for some of the most stimulating work in the matter of the management of the school budget and of school organization and management. A copy of this book ought to find its way into the hands of every school board in the land.

J. PAUL GOODE

UNIVERSITY OF CHICAGO
August 1, 1907

Physiography. By ROLLIN D. SALISBURY. New York: Henry Holt & Co., 1907. Pp. xx+770. Maps and illustrations. $3.50.

Teachers of physiography will welcome this new book, not only on account of the large amount of fresh material and the fine illustrations that it contains, but also because it represents the accumulated experience and the method of a scientist whose skill as a teacher is well known and widely appreciated.

The perspective adopted in regard to the treatment of the topics presented furnishes the teacher and the student alike with a standard expression of the material of physiography as taught by American scholars today. While the book is largely the result of the author's research, it also represents in large measure the various lines of investigation to which references are made within its pages; and it therefore places the reader in touch, if not always in harmony, with the best that has been written, and may be said to voice the latest and the best thought upon the topics which it treats.

The book goes beyond the elementary treatment found in books of the secondary school. Though the reader is carried forward to a consideration of the unsettled questions that must necessarily arise in any adequate discussion of matters upon which the final word has not yet been said, and though the ripest opinions of the most advanced students are considered in this discussion, still the treatment is in no sense of the word theoretical. In the perspective adopted by the author some teachers may feel that small space has been given to certain topics appropriate to high school, such as rocks and minerals, and to the study of plant and animal geography, but it must be remembered that in colleges, where the author designs the book to be used, special courses in these related topics are given in the associated departments. And, further, space enough could not be given in a text on physiography for a discussion adequate to the needs of the teacher or the advanced student of these lines that are only indirectly represented in the subject. In fact a strong point in the book is this, that, with the exception of a few references to physiographic effects on human life scattered through its pages, it presents physiography as a science associating causes and effects clearly and forcibly, thus avoiding the mistake made by many authors who try to exalt physiographic control at the expense of a science deeply interesting for its own sake.

The author holds persistently to that idea of physiography which regards the origin of land forms as its chief problem; or as is expressed in the introduction, the scope of the subject includes those facts that pertain to the plane of contact of the air and water with the land, and of air with water. The results of the activity of physical forces through the three media, air, water, and land, by the very nature of things can be expressed only in terms of the land, since air is constantly changing its form and the water assumes a relief temporarily, only, while both air and water leave more or less permanent forms in the surface of the land. But any study of the origin of land forms involves the study of both the air and the water, since the former becomes the medium through which natural forces operate, while the latter is the greatest agent in producing the effects. Though the major part of the text is given to land forms, still 273 pages remain for the treatment of the atmosphere, the ocean, and the earth's solar relations. The treatment is essentially dynamic and the movement in the direction of the explanation of the origin of the land forms of the earth. The reader is led to see these forms in the process of becoming what they are, and to anticipate the time when they shall give way to other forms. The surface of the earth becomes a stage where physical forces play their part, now in one rôle, now in another, until the land above the sea is reduced to base level or rejuvenated to pass again through a similar sequence of events.

The first chapter of the book introduces the reader to the chief relief forms of the crust of the earth and to the material out of which they are formed. This

general survey places the problem of the land forms well before the student and prepares him for the consideration in the following eight chapters of the agents that have shaped them. The discussion runs on smoothly in the explanation of the work of the atmosphere, of ground water, running water, snow and ice, of waves and currents in the construction of shore forms, of vulcanism, and the effects of crustal movement, or diastrophism. These chapters are followed by a very excellent generalization and summary of the origin and distribution of land forms.

The part played by the atmosphere in the evolution of relief gains for it a treatment comparable in detail to that presented by special texts on meterology. Here, again, the sequence is dynamic. The energy received from the sun is followed through a series of transformations in the chapters on atmospheric pressure, the movement of air currents, and the transportation of water vapor to its final precipitation upon the earth. The various elements of climate and the zones of climate receive due attention. In these chapters the composition of the atmosphere, the air in its life relations, the distribution of temperatures over the earth, and the philosophy of air movement are treated in an interesting and original manner. The chapter on the storms of the United States is especially detailed and illustrated by a complete series of isothermal charts and weather maps. Following the chapters on the atmosphere six chapters, covering fifty pages, are given to the discussion of the principal facts of oceanography.

The text contains more than seven hundred illustrations, forty-three of which are sections of topographic maps, and of the others more than three hundred are beautiful halftones. The placing of pictures with respect to text is admirable. One can turn to any of the illustrations and find adjacent to it the statement that explains it, so that illustration and text seem to blend in conveying the idea to the reader. The halftones are not merely inserted, as in some books, but bear a vital relation to the text.

At the end of each chapter one finds a well-selected list of topographic maps, with suggestions as to their use, in relation to the text, and a list of classified and paged references for supplementary reading. These references, even without the text, would be a most valuable aid to the advanced student or teacher, since they represent the cream of the exercises and assignments accumulated by long experience in the classroom. The style of the author, in the exposition of the science, is delightfully clear, and the concise statement of the most abstruse parts of the work will be a source of satisfaction to every student who appreciates exactness and definiteness. Though the book is written for college students the style is so clear and the treatment so straightforward that the average high-school student will read it as easily as the more elementary texts.

I have used the book with classes in the normal school and find it well adapted to the work of introducing the student to the more general field of geography. The students tell me that they find the text clear and interesting. They certainly get a good grip on the subject, as shown by their recitations.

No teacher or advanced student can afford to be without this comprehensive statement of the principles and matter of physiography. No better book could be had, also, for reference work in classes in the high school.

L. H. Wood

Kalamazoo, Mich.

The Making of English Literature. By WILLIAM H. CRAWSHAW, A.M. Boston: D. C. Heath & Co. Pp. iv+474.

Readers of Professor Crawshaw's excellent volumes entitled *The Interpretation of Literature* and *The Literary Interpretation of Life* have reason to congratulate themselves that now they can read the same author's vigorous and entertaining history of English literature. Professor Crawshaw in his history has followed the main lines of thought and interpretation set forth in the two volumes he first published. Thought, emotion, imagination, and beauty—the four elements lying at the basis of all literature—are the fundamentals of the author's thesis for the study of literature and literary history. In addition to these basic principles Professor Crawshaw insists that his book "endeavors to emphasize the fact that literature is an outgrowth of life." But these are not all the vital principles that the author lays down as guides for the reader of his volume. He reverts, in some measure, to Taine's theory of the forces which lie behind the making of a national literature, but unlike Taine he makes no undue allowance for the influence of race, epoch, environment, and personality. He likes, for instance, to hold to the pleasant theory of the combination of the Saxon and Celtic influence working in Shakespeare, but he does not, and very wisely he does not, insist on the whole course of the Anglo-Celtic influence on English literature. No one disputes the modifying power of these separate races on literature—but that that power is palpably apparent is quite another question really beyond the range of a literary historian. Such a view, however, does not preclude an author's putting much intelligent emphasis on the great life-forces which have determined the general character of English literature, and Professor Crawshaw has managed this part of his work exceedingly well. Some readers may think that the author should have made a more telling and vital connection between English life and English literature—a theory that is rapidly gaining advocates. The author explains, however, that the lack of space warrants his holding to the distinctly literary view-point.

The chapter headings in the book denote the good old-fashioned and reasonable divisions of "The Age of Chaucer," "The Age of Shakespeare," etc., and the six "books" making up the volume have the soul-satisfying titles of "Paganism and Christianity (449–1066);" "Religion and Romance (1066–1500);" "Renaissance and Reformation (1500–1660);" "Classicism (1660–1780);" "Individualism (1780–1832);" "Democracy and Science (1832–1892)." Such divisions, however arbitrary they may seem to many students, are manifestly the divisions most in accord with the author's professed scheme in writing the book.

In keeping with the general principles of the book, likewise, is the author's practice of giving few biographical details and dates; dates are given only when they are directly important as a significant fact in their relation to literature.

Our space does not permit us to go into a detailed analysis of this splendid book, splendid in its critical acumen, sane judgments, breadth of spirit, and in catholic sympathy, but we must note a point or two where we think the author might have improved his book. His treatment of the drama before Shakespeare, especially the Mystery and Morality plays, is inadequate and not compactly grouped. We are of the opinion, too, that many readers of the book will be inclined to disagree with Professor Crawshaw in his assigning Pope a place as a

forerunner of the Romantic movement. "There is in Pope," says the author, "faint glimmerings of a love for nature and even for the romantic. His sensitive temperament felt already the coming of influences that were to shape and change poetry after his death." Of course Professor Crawshaw does not consider Pope other than a poet of classicism, but it seems strange to have Pope credited with being a lover of nature—other than "nature methodized." But such criticism seems to be carping pedantry.

Professor Crawshaw has enhanced the value of his book by including many portraits in sepia tone, reproductions of old prints and pages of old manuscripts, and views of scenes and buildings famous in the literary history of England. An appendix to the volumes gives a chronological outline, a very complete reading and study list, and a suggestive and well-chosen set of questions. A literary map and a full index complete this scholarly and readable volume. But with these manifold excellences we doubt very much if the volume has the staying qualities necessary for classroom work. For the general reader it is undoubtedly an excellent book.

H. E. COBLENTZ

MILWAUKEE, WIS.

The Major Dramas of Richard Brinsley Sheridan. Edited by GEORGE HENRY NETTLETON. Boston: Ginn & Co. Pp. cxvii+331.

It is somewhat surprising that students of English literature who are bitten with the desire to edit something have not fallen on the dramas of Sheridan. With the exception of the late Fraser Rae's voluminous biography of Sheridan and the same author's edition of Sheridan's *Plays*, no adequate treatment of Sheridan and his work has been made in recent years. Hence it was very appropriate that Professor Nettleton should take up Mr. Rae's work and carry it forward, especially since Mr. Rae himself admitted "that there remained a large and almost unexplored field for investigation in the study of the plays"—a critical study based on contemporary documents. This, then is the distinctive aim of Professor Nettleton's edition, "to give a critical study of Sheridan's major dramas based primarily on contemporary evidence." To this end the editor informs us he has consulted more than a thousand volumes of eighteenth-century memoirs, diaries, novels, essays, poems, newspapers, and magazines to garner material for his introduction and notes. Thus, to illuminate the "local color" in *The Rivals* one of the sections in the introduction gives a vivid and interesting picture of Bath in the eighteenth century, drawn from Goldsmith's *Life of Richard Nash*, Christopher Anstey's poem "The New Bath Guide," Fanny Burney's diary, Horace Walpole's letters, Smollett's novels, and contemporary magazines. Another section gives the story of the initial failure, and final triumph of *The Rivals* based on extracts, given in the Appendix, from contemporary documents. All this work Professor Nettleton has done in a thoroughly critical and scholarly manner with a keen literary appreciation. Admirers of Sheridan's *The Rivals, The School for Scandal*, and *The Critic*—and who does not admire all of these plays?—may now have their favorites printed (for the first time in America) from the authentic text of Sheridan's plays taken from the original manuscripts, and edited (for the first time anywhere) with

complete annotation. To add that this book is printed in the well-known "Athenæum Press Series" is to indicate its superior typographical features.

H. E. COBLENTZ

MILWAUKEE, WIS.

Essays on English Studies. By HENRY N. HUDSON, LL.D. Edited by A. J. GEORGE, Litt. D. Boston: Ginn & Co. Pp. xxii+206.

In editing the little volume entitled *Essays on English Studies* by Dr. Henry N. Hudson, Professor A. J. George has made a fitting tribute to his old friend and teacher, and at the same time has made a worthy contribution to the library—now assuming a larger space—of studies in English. The volume contains the following essays: "Preface to School Hamlet," "English in Schools," "Shakespeare as a Text-Book," "How to Use Shakespeare in School," "On Editing Shakespeare," and "Daniel Webster." Professor George's Preface and Introduction treat the significant events of Dr. Hudson's life, and the principles which were the basis for his work as an editor and writer. The Notes to the volume (and seldom does the reader find more entertaining and illuminating matter in notes than he finds in this book) are written in the spirit of the editor's master—the author of the essays. We teachers of English owe many debts to both men, and we cannot do better than to give many an hour to this little book, fertile in advice, stimulating in suggestion, packed with common-sense experience gained in actual work, and inspiring to us who, probably more than teachers of other subjects, are prone to have black moments when we are inclined to believe that English cannot be taught. The fact that Dr. Hudson began his revolutionary movement in teaching English when it was a dead business, and made it a matter of life and spirit, and the equally important fact that he inspired many teachers to see literature as a matter of the soul and not of syllables, letters, punctuation, and literary parsing, so that they too became living disciples of a good teacher, should induce every teacher of English to read this volume that he may be saved many moments of despair.

H. E. COBLENTZ

MILWAUKEE, WIS.

BOOKS RECEIVED

EDUCATION

Aspects of Child Life and Education. By G. STANLEY HALL and some of his pupils. Boston: Ginn & Co., 1907. Pp. 326. $1.50.

Growth and Education. By JOHN MASON TYLER. Boston: Houghton, Mifflin & Co., 1907. Pp. xiv+294. $1.50.

Superintendents' and Principals' Association of Northern Illinois: Second Year Book. Report of Committee of Seven on An Outline Course of Study on a Scientific Basis, De Kalb, Illinois, May 3 and 4, 1907. Pp. 44.

Seventieth Annual Report of the Board of Education of Massachusetts, together with the Report of the Secretary of the Board, 1905–6. Boston: Wright & Potter Printing Co., 1907. Pp. ccxxiv+360.

ENGLISH

Selected Poems of Percy Bysshe Shelley. Edited with Introduction and Notes, by GEORGE HERBERT CLARKE, Boston: Houghton, Mifflin & Co., 1907. Pp. lxxi+266. $0.50.

Contains some of the best of Shelley's poems with an introduction, chiefly biographical, and a selected bibliography. The typography in all this series is admirable.

Handy Volume Classics. Pocket Edition. (New Volumes.) *Best American Tales,* Trent; *Cape Cod,* Thoreau; *Little Flowers* of St. Francis; *Meditations* of Marcus Aurelius; *Natural Law,* Drummond; *Religio Medici,* Browne. New York: Thomas Y. Crowell & Co. $0.30 per volume.

The six little books in this pocket edition of *Handy Volume Classics* are excellent in typography and appearance, and among the volumes are some which every teacher will want to have for his pocket or his shelf.

GERMAN

Lessing's "Minna von Barnhelm." Edited, with Introduction, German Questions, Notes, and Vocabulary, by PHILIP SCHUYLER ALLEN. New York: Chas. E. Merrill Co., 1907. Pp. 285. $0.60.

ROMANCE

Mérimée's "Carmen and Other Stories." Edited, with Notes and Vocabulary, by EDWARD MANLEY. Boston: Ginn & Co., 1907. Pp. 251.

Rotrou's "Saint Genest and Venceslas." Edited, with Introduction and Notes, by THOMAS FREDERICK CRANE. Boston: Ginn & Co., 1907. Pp. 433.

Lessons in French Syntax and Composition. By W. U. VREELAND AND WILLIAM KOREN. New York: Henry Holt & Co., 1907. Pp. 178.

Balzac's "Ursule Mirouët." Edited, with Introduction and Notes, by FREDERICK HAY OSGOOD. New York: Henry Holt & Co., 1907. Pp. 262.

Poésies enfantines (avec maximes et proverbes). Recueillies et mises en transcription phonétique. Par DANIEL JONES. Leipzig et Berlin: B. G. Teubner, 1907. Pp. 106. Illustrated. M. 1.80.

Bibliotheca Romanica. Strassburg: J. H. Ed. Heitz; New York: Lemcke & Buechner. 40 Pf. per volume. Paper covers.

1. *Le Misanthrope,* Molière; 2. *Les Femmes savantes,* Molière; 3. *Le Cid,* Corneille; 4. *Discours de la méthode,* Descartes; 5, 6. *Divina Commedia I: Inferno,* Dante; 7. *Decameron, Prima giornata,* Boccaccio; 8. *La vida es sueno,* Calderon; 9. *L'an Deux-mille,* Restif de la Bretonne; 10. *Os Lusiadas: Canto I, II, Camoes;* 11. *Athalie,* Racine; 12–15. *Rerum vulgarium fragmenta,* Petrarca; 16, 17, *Divina Commedia, II: Purgatorio,* Dante; 18–20, *Mon oncle Benjamin,* Tillier; 21, 22. *Decameron, Seconda giornata,* Boccaccio; 23, 24, *Le Barbier de Séville,* Beaumarchais; 25. *Os Lusiadas: Canto III, IV,* Camoes; 26–28, *Comédies et Proverbes: La Nuit vénitienne; André del Sarto; Les Caprices de Marianne; Fantasio; On ne badine pas avec l'amour,* Alfred de Mussett; 29. *Horace,* Corneille; 30, 31. *Divina Commedia III: Paradiso,* Dante; 32–34. *Manon Lescaut,* Prévost; 35, 36. *Œuvres de Maître François Villon;* 37–39. *Las Mocedades del Cid, I, II,* Guillem de Castro; 40. *La Vita Nova,* Dante.

SCIENCE AND MATHEMATICS

Elements of Physiology. Being Part I of "The Human Mechanism: Its Physiology and Hygiene and the Sanitation of Its Surroundings." By THEODORE HOUGH and WILLIAM T. SEDGWICK. Boston: Ginn & Co., 1907. Illustrated. Pp. 321. $1.25.

Laboratory Exercises in Elementary Physics, Book I: Measurement, Gravity, Mechanical Powers. A Notebook for Pupils. By H. NEWMAN. Boston: Ginn & Co., 1907. Illustrated. Pp. 25.

Physiologie und Anatomie des Menschen, mit Ausblicken auf den ganzen Kreis der Wirbeltiere. Von FELIX KIENITZ-GERLOFF. Leipsig und Berlin: B. G. Teubner, 1907. Pp. 130. M. 3.

First Course in Algebra. With eight thousand Examples, including three thousand Mental Exercises. By ALBERT HARRY WHEELER. Boston: Little, Brown & Co., 1907. Pp. 664. $1.15.

SOCIOLOGY

The New Harmony Movement. By GEORGE R. LOCKWOOD; with the collaboration of CHARLES A. PROSSER in the preparation of the Educational chapters. New York: D. Appleton & Co., 1907.

HYGIENE

Schularzttätigkeit und Schulgesundheitspflege. Von G. LEUBUSCHER. Leipzig und Berlin: B. G. Teubner, 1907. Pp. 70. M. 1.20.

Lehrerschaft und Schulhygiene in Vergangenheit und Gegenwart. Von KARL ROLLER. Leipzig: B. G. Teubner, 1907. Pp. 35. M. 0.80.

MANUAL TRAINING

Elementary Turning. For use in manual training classes. By FRANK HENRY SELDEN. Chicago: Rand, McNally & Co., 1907. Fully illustrated. Pp. 197.

AGRICULTURE

School Gardens for California Schools. A Manual for Teachers. Publications of the State Normal School, Chico, Cal., Bulletin No. 1, July, 1905. By B. M. DAVIS. Sacramento: W. W. Shannon. Pp. 79. $0.50.

MISCELLANEOUS

Poor Richard Jr.'s Almanack. Reprinted from the *Saturday Evening Post.* Philadelphia: Henry Altemus Co., 1906. Pp. 126. $0.50.

NOTES AND NEWS

The new building for the Chicago Juvenile Court and Detention Home was dedicated August 7, with addresses from several who have had a part in the movement for its erection. The purpose of the Juvenile Court as defined by the law itself is: "That the care, custody, and discipline of a child shall approximate as nearly as may be that which should be given by its parents, and in all cases where it can properly be done, the child to be placed in an approved family home and become a member of the family by legal adoption or otherwise." The new building has been constructed and arranged with a view to preventing the impression being made on the child or on his parents or friends that he is being tried as a criminal. The hearings will be held in a room fitted up as a parlor rather than a court, around a table instead of a judicial bench. Only the child and its parents and friends, the probation officer and court attendants, will be present. The child's story will be told without the formality of an oath. The hearing will be in the nature of a family conference, in which the endeavor will be to impress the child with the fact that his own good alone is sought; that the intention of the court is to help him to self-respect and self-control.

Beyond the mere fact of detention, the Detention Home will possess none of the features of a prison. The child will be housed and fed and given parental care while awaiting a hearing. Medical attention, school facilities, baths, rooms for play, and means of amusement will be provided. In short, it is the purpose to make the Detention Home a home in the best sense of the term.

The new Juvenile Court building is a three-story, fire-proof structure of modern French Renaissance style of architecture. It is constructed of impervious red pressed brick with Bedford stone base, entrance, trimmings, belt courses, and cornice. It has a frontage of 109 feet and a depth of 106 feet. A court, open at the south end, 24 feet wide and 52 feet deep, in the center of the building, divides it into two wings and offers access to the building from the rear.

The figures show that since the establishment of the Juvenile Court a smaller number of boys under sixteen are held to the grand jury, and that

fewer are sent to institutions. During the first year of the court's existence thirty-seven were held to the grand jury. Fifteen has been the average for the last three years. From July 1, 1899, to December 31, 1905, the annual average of commitments to the John Worthy School was 753; in 1905 the number was 552, and in 1906, 405. Commitments to the bridewell of boys under twenty-one years of age numbered 2,077 in 1904, and 1,888 in 1906. The total number of children under probation officers at the close of the fiscal year 1906, was 4,401. As the per-capita cost of keeping a delinquent in an institution is at least $150, and the salary of a probation officer is $900, it appears that the public can pay an extra probation officer for each decrease of six delinquents in institutions, with no pecuniary loss.

The following, taken from a Bowdoin College *Bulletin*, may serve to encourage some boy who wants to go to college, but doesn't quite dare:

In my twenty years at Bowdoin College, I have never known a man of fair ability and willingness to work, who was obliged to give up his college course for lack of funds.

WILLIAM DEWITT HYDE, Bowdoin College.

The experience of many students shows that if a man has health, energy, cheerfulness, a good preparation for college work, he need not hesitate to enter.

CHARLES W. ELIOT, Harvard University.

The boy who goes to college at a personal sacrifice is apt to win a higher place in the world than the one who is sent there by an indulgent parent.

RICHARD C. HUGHES, Ripon College.

No ambitious young man need go without a college training, if he is determined to have it. A longer period may be required for the course; pleasant aspects of college life may have to be given up; self-denial and toil must be constant. But if there is willingness, there need be no hindrance.

S. B. MCCORMICK, Western University of Pennsylvania.

Lack of money for a college education has been the cause of many a young man going through life as a drudge at an uncongenial occupation. The time has passed, however, when any young man who has a thirst for knowledge and a desire to gain an education need hesitate at this barrier of expense. There is no humiliation, as might be feared by some young men unacquainted with college ways, in being compelled to work one's way. College men respect each other for higher reasons than lie in stylish clothes and abundant spending money. It is only by the elements of character, by the qualities of his head and heart, that any man can win distinction among his fellows in the college world.

CHARLES F. THWING, Western Reserve University.

There is a vacancy in the directorship of art in the white schools of the District of Columbia caused by the death of Mrs. L. E. Fuller at the age of seventy-six years. She supervised all the art work of nearly forty thousand children and of over twenty assistants until a few days before the close of the school year. Mrs. Fuller was always progressive and possessed rare executive talent as well as exceptional ability in art production.